Jan Delaval

jan.delaval@uspto.gov

#### belyavskyi - 09 / 934334

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=> d his

(FILE 'HOME' ENTERED AT 11:33:14 ON 19 JUN 2002) SET COST OFF

FILE 'REGISTRY' ENTERED AT 11:33:30 ON 19 JUN 2002

```
E CHOLESTERYL ESTER TRANSFER PROTEIN/CN
               1 S E4
L1
                E CETP/CN
                E CHOLESTER? (L) ESTER (L) TRANSFER? (L) PROTEIN
             13 S CHOLESTER? (L) ESTER (L) TRANSFER? (L) PROTEIN
L2
L3
             13 S CETP
             13 S CHOLESTER? (L) ESTER (L) EXCHANG? (L) PROTEIN
L4
              1 S L1 AND L2-L4
L5
             24 S L2-L4 NOT L5
L6
     FILE 'HCAPLUS' ENTERED AT 11:37:36 ON 19 JUN 2002
            876 S CHOLESTER? (L) ESTER (L) EXCHANG? (L) PROTEIN
L7
                 E CHOLESTER? (L) ESTER (L) TRANSFER? (L) PROTEIN
            883 S CETP
L8
           1325 S CHOLESTER? (L) ESTER (L) TRANSFER? (L) PROTEIN
L9
              16 S L5 OR L6
L10
              16 S L7-L9 AND L10
L11
L12
              57 S ?ARTHEROSCLERO?
          34932 S ?ATHEROSCLERO?
L13
L14
              19 S ?ARTHERIOSCLERO?
          13496 S ?ARTERIOSCLERO?
L15
               9 S L11 AND L12-L15
L16
               4 S L11 AND VACCIN?
L17
               4 S L17 AND L16
L18
                 E ATHEROSCLEROSIS/CT
                                                                  Reference Librarian
                 E E3+ALL
                                                              Biotechnology & Chemical Library
           20165 S E7-E9, E6
L19
                                                                 CM1 1E07 - 703-308-4498
           32452 S E6, E8, E9/BI
L20
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E E5+ALL



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L21
          22555 S E5+NT
           8925 S E5/BI
L22
L23
              9 S L11 AND L19-L22
              4 S L16, L23 AND VACCIN?
L24
              5 S L16, L23 NOT L24
L25
L26
              9 S L23-L25
L27
            331 S L7-L9 AND L12-L15, L19-L22
L28
              9 S L27 AND VACCIN?
L29
             24 S L7-L9, L10 AND EPITOP?
              5 S L29 AND (TETANUS OR DIPHTHER? OR TOXOID OR TOXIN OR BCG OR BA
L30
             15 S L26, L28, L30
L31
             19 S L29 NOT L31
L32
                E RITTERSHAUS C/AU
             20 S E3-E6
L33
                E THOMAS L/AU
L34
            219 S E3, E14, E15
                E THOMAS LARRY/AU
L35
              4 S E3
             23 S E26, E29
L36
              6 S L33-L36 AND L7-L10
L37
L38
              6 S L31 AND L37
L39
              9 S L31 NOT L38
             15 S L38, L39
L40
              5 S L40 AND (PY<=1995 OR PRY<=1995 OR AY<=1995)
L41
L42
             15 S L40, L41
     FILE 'HCAPLUS' ENTERED AT 11:52:33 ON 19 JUN 2002
=> d all tot 142
L42 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2002 ACS
ΑN
     2002:4125 HCAPLUS
     An immunotherapeutic approach for the treatment of low plasma
     HDL-Cholesterol
     Ryan, Una S.; Rittershaus, Charles W.
ΑU
     AVANT Immunotherapeutics, Inc., Needham, MA, 02494-2725, USA
     NATO Science Series, Series I: Life and Behavioural Sciences (2001),
     330 (Vascular Endothelium), 26-33
     CODEN: NSSSC9; ISSN: 1566-7693
PB
     IOS Press
     Journal
DT
LA
     English
CC
     15-2 (Immunochemistry)
     Section cross-reference(s): 14
     One determinant of plasma HDL-Cholesterol concn. is
AB
     cholesteryl ester transfer protein (
     CETP) activity. Inhibition of CETP activity increases
     plasma HDL-C, thus providing a potential therapeutic target for the
     treatment of atherosclerosis. Using a vaccine
     approach, we immunized New Zealand White rabbits with a peptide contg. a
     region of CETP known to be required for neutral lipid
     transfer function. CETP-vaccinated rabbits
     had significantly reduced plasma CETP activity and an altered
     lipoprotein profile compared with control rabbits. In a
     cholesterol-fed rabbit model of atherosclerosis, the
     fraction of plasma cholesterol in HDL was 42% higher, and the
     fraction of plasma cholesterol in LDL was 24% lower in the
     CETP-vaccinated group compared with the control-
     vaccinated group. Moreover, the percentage of the aorta surface
     exhibiting atherosclerotic lesion was 39.6% smaller in the
     CETP-vaccinated rabbits compared with controls. The
     data reported here demonstrate that CETP activity can be reduced
     in vivo by vaccination with a peptide derived from CETP
```



GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

June 18, 2002, 08:05:51; Search time 26.94 Seconds (without alignments) 92.737 Million cell updates/sec

Sequence: Perfect score:

Title:

RDGFLLLQMDFGFPEHLLVDFLQSLS 26

US-09-943-334-1

Scoring table:

BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB Maximum DB seq length: 2000000000 length: 0

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summarles

Database

PIR\_71:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
4: pir4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

29	<u>ي</u>	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	90	7	6	s	4	ω	2	_	Result	
46	4.	46	46	46.5	46.5	47	48	48	48	48.	48	48	48	48	49.5	50	50	50	51	53	53	54	56	56	117	131	134	134	score	
34.3	י ה נ	34.3	34.3	34.7	34.7	•	•				•	•	35.8	•	36.9	37.3	37.3	37.3	38.1		39.6	40.3	41.8	41.8	87.3	97.8	100.0	100.0	Query Match	0
374	20 1	312	104	1952	110	311	682	428	390	348	348	348	348	348	559	311	311	311	274	590	426	310	587	587	497	289	493	493	Length [	
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G97057	H90168	G82791	A96002	T48814	AI1860	AC0663	G71299	C96633	D83853	AD0294	AD0704	G85778	C90930	ADECH	D90291	Н90869	A85749	C64884	C83497	E86870	A81904	D82199	A98112	D95247	146692	A38700	A26941	A53176	ID	
coproporphyrinogen	arotei	ರ			hypothetical prote	conserved hypothet	conserved hypothet	probable Serine/Th	cystathionine beta	2-dehydro-3-deoxyp	۵	hypothetical prote	nypothetical prote	2-dehydro-3-deoxyp	_		nypothetical prote	ydaO protein - Esc	conserved hypothet	aspartatetRNA li	hypothetical prote	conserved hypothet	aspartatetRNA li	aspartyl-tRNA synt	cholesteryl ester	cholesteryl ester	cholesteryl ester	cholesteryl ester	Description	

Query Match
Best Local Similarity
Matches 26; Conserv

100.0%; Score 134; DB 2; ilarity 100.0%; Pred. No. 5.5e-13; Conservative 0; Mismatches 0;

Length 493;

Indels

0

Gaps

0;

## ALIGNMENTS

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A:Title: Molecular cloning, sequence, and expression of cynomolgus monkey cholesteryl asma high density lipoprotein levels.
A:Reference number: A53176; MUID:92031355
A:Accession: A53176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cholesteryl ester transfer protein - crab-eating macaque
C;Species: Macaca fascicularis (crab-eating macaque)
C;Date: 12-May-1994 #sequence_revision 12-May-1994 #text_change 07-May-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Accession: A53176
R;Pape, M.E.; Rehberg, E.F.; Marotti, K.R.; Melchior, G.W. Arterioscler. Thromb. 11, 1759-1771, 1991
A;Gene: GDB:CETP
A;Cross-references: GDB:119773; OMIM:118470
A;Map position: 16q13-15q13
F;1-17/Domain: signal sequence #status predicted <SIG>
F;18-493/Product: cholesteryl ester transfer protein #status predicted <MAT>
                                                                                                                                                                                                                                                                                    R;Drayna, D.; Jarnagin, A.S.; McLean, J.; Henzel, W.; Kohr, W.; Fielding, C.; Lawn, Nature 327, 632-634, 1987
A;Title: Cloning and sequencing of human cholesteryl ester transfer protein cDNA.
A;Reference number: A26941; MUID:87258172
A;Accession: A26941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cholesteryl ester transfer protein precursor - human
C; Species: Homo sapiens (man)
C; Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 21-Jul-2000
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A;Molecule type: mRNA
A;Residues: 1-493 <PAP>
                                                                                                                                                                C; Genetics
                                                                                                                                                                                               A;Molecule type: mRNA
A;Rosidues: 1-493 -CDRA>
A;Cross-references: EMBL:M30185; NID:g180259; PIDN:AAA51977.1; PID:g180260
                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Accession: A26941
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Best Local Similarity
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A38700
A38700
C:Species: Mesocricetus auratus (golden hamster)
C:Species: Mesocricetus auratus (golden hamster)
C:CDate: 28-Feb-1992 *sequence_revision 10-Apr-1992 *text_change 05-Nov-1999
C:Accession: A38700
R:Jiang, X.C.; Moulin, P.; Quinet, E.; Goldberg, I.J.; Yacoub, L.K.; Agellon, L.
Biol. Chem. 266, 4631-4639, 1991
A:Fittle: Mammalian adipose tissue and muscle are major sources of lipid transfer A;Reference number: A38700; MUID:91154277
A;Accession: A38700
A;Status: preliminary
A;Molecule Type: mRNA
A;Residues: 1-289 <JIA>
A;Ross-references: GB:M63992; NID:919142; PIDN:AAA37066.1; PID:91343
A;Note: the authors translated the codon CTG for residue 68 as Gly, GGG for residue Ser, and TTC for residue 267 as Ser
                D95247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cholesteryl ester transfer protein - rabbit (fragment) c;Species: oryctolagus cuniculus (domestic rabbit) C;Date: 14-Feb-1997 #sequence_revision 14-Feb-1997 #te c;Accession: I46692 R;Nagashima, M.; McLean, J.W.; Lawn, R.M.
                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                 C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Reference number: 146692; MUID:89215620
A;Accession: 146692
A;Status: preliminary; translated from GB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              J. Lipid Res. 29, 1643-1649, 1988
A;Title: Cloning and mRNA tissue distribution
          A; Authors:
                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                 A; Gene: CETE
                                                                                                                                                                                                                                                                                                                                                                                                                A; Cross - references:
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146692
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Best Local S
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         Loftus,
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1643-1649, 1988
                                                                                                                                                                                                                                                                                                                                                                                                                GB:M27486;
     Yang,
                                                                                                                                                                                                                                                                                                          87.3%;
92.0%;
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Pred. No. 8.7e-13;
     Smith,
                                                                                                                                                                                                                                                           26
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                                                                                                                                    Streptococcus pneumoniae (strain TIGR4)
                                                                                                    03-Aug-2001 #text_change
     H.O.;
                                                      Eisen,
S.L.;
                                                                                                                                                                                                                                                                                                                                                                                                            PIDN:AAA31199.1; PID:g530907
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.5e-10;
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     Venter,
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                                                      Lewis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #text_change
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                                                                     J.A.,
                                                                                                                                                                                                                                                                                                                          Length 497;
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   J.C.;
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                                                    Read,
M.R.;
   Dougherty,
                                                 T.D.; Peterson, Radune, D.; Hol
                                                                                                       24-Aug-2001
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                                                                                                                                                                                                                                                                                          0;
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Holtzapple,
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   Morrison
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                                                                                R;Heldelberg, J.F.; Elsen, J.A.; Nelson, W.C.; Clayton, R.A.; Gwinn, M.L.; chardson, D.; Ermolaeva, M.D.; Vamethevan, J.; Bass, S.; Qin, H.; Dragoi, 1 L. R.R.; Mekalanos, J.J.; Venter, J.C.; Fraser, C.M.
Nature 406, 477-483, 2000
N;Title: DNA Sequence of both chromosomes of the cholera pathogen Vibrio cha;Reference number: A82035; MUID:20406833
A;Accession: D82199
                                                                                                                                                                                                                                                                       RESULT
D82199
A; Molecule type: DNA
A; Residues: 1-310 < HEI>
A; Cross references: GB: AE004222;
A; Experimental source: serogroup
                                                                 A; Status: preliminary
                                                                                                                                                                                                    C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Feb-2001 C;Accession: D82199
                                                                                                                                                                                                                                       conserved hypothetical protein
C; Species: Vibrio cholerae
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VC1432 [imported] - Vibrio cholerae (strain N16961

ser

GB:AE003852; NID:g9655930; O1; strain N16961; biotype

PIDN:AAF94589.1; El Tor

GSPDB

Vibrio cholerae

Dodson,

dson, R. Sellers

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A; Gene: aspS
C; Superfamily: lysine--tRNA ligase
C; Keywords: ligase
                                                                                                                                                                                                                                       A; Molecule type: DNA
A; Residues: 1-587 <KUR>
A; Cross-references: GB:
                                                                                                                                                                                                                                                                                                               A;Authors: Yang, Y.; Young-Bellido, M.; Zhao, G.; Zook, C. A;Title: Genome of the Bacterium Streptococcus pneumoniae A;Reference number: A97872; MUID:21429245; PMID:11544234 A;Accession: A98112
                                                                                                                                                                                                                                                                                                                                                                                 R:HOSKins, J.A.; Alborn Jr., W.; Arnold, J.; Blaszczak, L.; Burgett, S. e, R.; LeBlanc, D.J.; Lee, L.N.; Lefkowitz, E.J.; Lu, J.; Matsushima, Y. P.; Sun, P.M.; Winkler, M.E. J.; Burgett, M.E. J.; Bacteriol. 183, 5709-5717, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Species: Streptococcus pneumoniae
C;Date: 22-Oct-2001 #sequence_revision
C;Accession: A98112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Nolecule type: DNA
A; Molecule type: DNA
A; Residues: 1-587 < KUR>
A; Cross-references: GB; AE005672; PII
A; Cross-references: strain TIGR4
                                                                                                                                                                                                                          C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aspartate--tRNA ligase (EC 6.1.1.12) [imported] - Streptococcus pneumoniae (strain C;Species: Streptococcus pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Gene: SP2114
C;Superfamily: lysine--tRNA ligase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Title: Complete Genome Sequence of a virulent isolate of Streptococcus A; Reference number: A95000; MUID:21357209; PMID:11463916 A; Accession: D95247
                                                                                                                                                                                                                                                                                               A; Status: preliminary
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Best Local S
Matches 10
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GFLLEAMDYGFPPH
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10; Conser
                                                                        Conservative
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                                                                                      41.8%;
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71.48;
                                                                                      Score 56;
Pred. No.
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                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-Oct-2001 #text_change 02-Nov-2001
                                                                                          1.1;
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                                                                                                      Length 587
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                                                                      Indels
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                                                                    Gaps
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GFLLLQMDFGFPEH

16

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aspartate--tRNA ligase (EC 6.1.1.12) [imported] - Lactococcus lactis subsp. lac N;Alternate names: aspartyl-tRNA synthetase C;Species: Lactococcus lactis subsp. lactis C;Date: 23-Mar-2001 #sequence_revision 23-Mar-2001 #text_change 03-Aug-2001 C;Accession: E86870 R;Bolotin, A.; Wincker, P.; Mauger, S.; Jaillon, O.; Malarme, K.; Weissenbach, Genome Res. 11, 731-753, 2001 A;Riberia Complete genome sequence of the lactic acid bacterium Lactococcus A;Reference number: A86625; MUID:21235186; PMID:11337471 A;Accession: E86870 A;Status: preliminary A. Molocule force.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A:Cross-references: GB:AL162755; GB:AL157959; NID:g7379742; A:Experimental source: serogroup A, strain 22491 C:Genetics: A;Gene: NMA1350 C;Superfamily: hypothetical protein HI0404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypothetical protein nMA1350 [imported] - Neisseria meningitidis (strain 22491 C:Species: Neisseria meningitidis C:Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 02-Feb-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C:Genetics:
A;Gene: VC1432
A;Map position: 1
C:Superfamily: conserved hypothetical protein MJ1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R; Parkhill, J.; Achtman, M.; James, Holroyd, S.; Jagels, K.; Leather, Nature 404, 502-506, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Title: Complete DNA sequence of a serogroup A;Reference number: A81775; MUID:20222556 A;Accession: A81904
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                                                                                                 A;Gene: aspS
C;Superfamily: lys.
C;Keywords: ligase
                                                                                                                                                                              A; Molecule type: DNA
A; Residues: 1-590 <STO>
A; Cross-references: GB:AE005176; PID:g12725007; PIDN:AAK06(63.1; GSPDB:GN00146
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A; Residues: 1-426 < PAR>
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                                                                                                                                                   A; Experimental source: C; Genetics:
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Best Local Similarity 64.
Matches 9; Conservative
             Query Match
Best Local Similarity
Matches 9; Conserv
                                                                                                                  Superfamily: lysine--tRNA ligase
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Best Local
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                             39.68;
             Score 53; DB Pred. No. 3.2; 2; Mismatches
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Pred. No. 2
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S.; Moule, S.;
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2.2;
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Mungall, K.; Quail, M.A.;
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hypothetical protein ydaO [imported] - C; Species: Escherichia coli
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C;Genetics:
A;Gene: PAll92
C;Superfamily:
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C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000
C;Accession: C83497
R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hicladman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Lari
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Title: Complete genome sequence of Pseudomonas A;Reference number: A82950; MUID:20437337 A;Accession: C83497
                                                                                                                                                                                                                                                                                                                                                                          C:Accession: Č64884
R:Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Pern A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
Science 277, 1453-1462, 1997
A:Title: The complete genome sequence of Escherichia A:Reference number: A64720; MUID:97426617
A:Accession: C64884
RESULT
AB5749
                                                                                                                                                                                                                             C:Genetics:
A:Gene: ydaO
C:Superfamily: conserved hypothetical protein MJ1157
                                                                                                                                                                                                                                                                                                                       A;Status: preliminary; nucleic A;Molecule type: DNA A;Residues: 1-311 <BLAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Species: Escherichia coli
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 21-Jul-2000
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A; Residues: 1-274 <STO>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          conserved hypothetical protein PA1192 [imported] - Pseudomonas aeruginosa (strain PAO
                                                                                                                                                                                                                                                                                    A;Cross-references: GB:AE000232; GB:U00096; NID:g1787600;
A;Experimental source: strain K-12, substrain MG1655
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                                                                      83 GFPEHVLPEYLEKL
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8; Conser
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Pred. No. 2.7;
5; Mismatches
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Pred. No. 4.5;
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2.7;
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Larbig,
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Escherichia coli (strain 0157:H7, substrain

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R:She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M. Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; arrett, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J. submitted to GenBank, April 2001
A;Description: Sulfolobus solfataricus complete genome.
                                                                                                                                                                                                            permease, multidrug efflux [imported] - Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
C;Date: 24-May-2001 #sequence_revision 24-May-2001 #text_change
C;Accession: D90291
                                                A; Reference number: A99139
A; Accession: D90291
                                                                                                                                                                                                                                                                                                             RESULT
D90291
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C;Accession: A85749
R;Perna, N. T;, Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, 11ler, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, 11ler, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, Nature 409, 529-533, 2001
A;Title: Genome sequence of enterohemorrhagic Escherichia coli 0157:H7.
A;Reference number: A85480; MUID:21074935; PMID:11206551
A;Accession: A85749
                         A; Status: preliminary
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C; Superfamily:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: GB:BA000007; PIDN:BAB35351.1; PID:g13361393; GSPDB:GN00154
A;Experimental source: strain O157:H7, substrain RIMD 0509952
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-311 <HAY>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli
A;Reference number: A99629; MUID:21156231; PMID:11258796
A;Accession: H90869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, DNA Res. 8, 11-22, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hypothetical protein ECs1928 [imported] - Escherichia coli (strain O157:H7, C;Species: Escherichia coli C;Species: Bscherichia coli C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 27-Nov-2001 C;Accession: H90869
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: DNA
A; Residues: 1-311 <STO>
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les 8; Conser
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57.1%;
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57.18;
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K.; Apodaca,
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A:Note: the first reaction in aromatic amino acid biosynthesis A:Note: feedback-inhibited by tryptophan; the other two DAHP synthases C:Superfamily: phospho-2-denydro-3-deoxynheptonate aldolase C:Keywords: aldehyde-lyase; aromatic amino acid biosynthesis; carbon-ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Experimental source: strain K-12, substrain R;Hudson, G.S.; Rellos, P.; Davidson, B.E. Gene 102, 87-91, 1991
A;Title: Two processing the strain R;Hudson, B.E.
                                                                                                                                                                                                                                               A; Description: aldehyde-lyase; carbon-carbon lyase; this is one ic acid-7-phosphate
                                                                                                                                                                                                                                                                                                                                                                                         A;Molecule type: DNA
A;Residues: 1-36;231-332,'RO',335-348 <ZUR>
A;Cross-references: GB:J01592; GB:J01593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross:references: GB:J04221
R;Zurawski, G.; Gunsalus, R.P.; Brown, K.D.; Yanofsky,
J. Mol. Biol. 145, 47-73, 1981
A;Title: Structure and regulation of aroH, the structu:
A;Reference number: A01107; MUID:81267314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross:references: GB:M38266; NID:9145376; PIDN:AAA23497.1; PID:9145378 R:Ray, J.M.; Yanofsky, C.; Bauerle, R. J. Bacteriol. 170, 5500-5506, 1988 A;Title: Mutational analysis of the catalytic and feedback sites of the A;Reference number: A31384; MUID:89053867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Title: Two promoters control the aroH gene A; Reference number: JQ1131; MUID:91323737 A; Accession: JQ1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Science 277, 1453-1462, 19300, r.
A;Title: The complete genome sequence of Escherichia A;Reference number: A64720; MUID:97426617
A;Accession: H64928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Date: 22-May-1981 #sequence_revision 31-Oct-1997 #text_change 18-Jun-1999 C;Accession: H64928; JQ1131; A31384; A01107 R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; A.; Rose, D.J.; Mau, B.; Shao, Y.
                                                                                                                                                                                                                          A; Pathway: aromatic amino acid biosynthesis; shikimate pathway
                                                                                                                                                                                                                                                                                                        C; Function:
                                                                                                                                                                                                                                                                                                                                A; Map position:
                                                                                                                                                                                                                                                                                                                                                                                 C; Genetics:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: DNA
A; Residues: 1-122, 'A', 124-202; 204, 'Q', 206-332, 'RQ', 335-348
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A; Residues: 1-332,'S',334-348 < HUD>
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A;Cross-references: GB:/
C;Genetics:
A;Gene: SSO1351
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     Query Match
Best Local S
Matches 8
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                  35.8%;
Score 48; DB:
Pred. No. 11;
2; Mismatches
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Pred. No. 11;
5; Mismatches
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in MG1655
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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
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OM protein - protein search, using sw model

Run on: June 18, 2002, 08:07:01; Search time 13.5 Seconds (without alignments) 74.571 Million cell updates/sec

Title: Perfect score: Sequence: US-09-943-334-1 134 1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26

Scoring table: BLOSUM62 Gapop 10.0 , Gapext 0.5

Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SwissProt\_40:\*

Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	80	7	6	ű	4	w	N	_	Result
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421	407	210	131	496	340	337	516	472	439	2292	2292	2290	901	782	428	779	423	423	177	1246	868	422	377	348 :	628	311	180 ]	313 1	497	289 ]	493 ]	493 1	Length DB
1 SNAA_STRPR	T KEC SALTE	1 FIMZ_SAUTY	T YD94_ARCFU	1 MSS1_SCHPO	1 TCPE_VIBCH	1 PLSX_BACHD	1 LEF9_NPVAC	1 C901_ARATH	1 AP50_DICDI	1 POLG_EMCVD	1 POLG_EMCVB	1 POLG_EMCV	<pre>1 POLG_ENMG3</pre>	1 CPSB_MOUSE	1 GDF2_MOUSE	1 RIR1_ASFM2	<pre>L A1M2_MOUSE</pre>	L ALM2_HUMAN	R101_ARATH	L YMV2_CAEEL	L PRTT_PORGI	L AP47_CAEEL	L OPS2_HEMSA	L AROH_ECOLI	TSD1_ABIGR	YDAO_ECOLI	R102_ARATH	YDAO_HAEIN	CETP_RABIT	CETP_MESAU	뎝	CETP_HUMAN	ID
R P54991 Streptomyce	٠,	P26319	0.2857	Q9ute7	P29487	Q9ka01	P41465 autograp		P54672	P17594		P03304	P32540			P26685 af	Q9wvp1 m adapt	Q9y6q5 h	Q9sw09 ar	P34504	P43158 porphyromon	P35602	Q25158	P00887		P76055		257184	P22687 oryctolagus	P25914	P47896 macaca fasc	P11597 homo sapien	Description

5	44	43	42	41	40	9	38	37	36	35	34
42	42	42	42	42.5	42.5	42.5	42.5	43	43	43	43
31.3	31.3	31.3	31.3	31.7	31.7	31.7	31.7	32.1	32.1	32.1	32.1
437	437	387	383	3097	1816	358	190	778	702	423	423
Ъ	μ	μ	μ	_	<u>_</u>	μ	Н	ب	Н	ш	Н
EF1G_MOUSE	EF1G_HUMAN	DHAT_KLEPN	Y628_MYCTU	CADN_DROME	LMA4_MOUSE	PKX1_HUMAN	YPAA_BACSU	RIR1_ASFB7	SYT_MYCLE	A1M1_MOUSE	Alm1_HUMAN
Q9d8n0			81695d								
mus musculu	homo sapien	klebsiella	mycobacter1	drosophila	mus musculu	homo sapien	bacillus su	atrican swi	mycobacteri	m adaptor-r	h adaptor-r

## ALIGNMENTS

RP RA RP RX	RA RA RT RT	R R R R R R R R R R R R R R R R R R R	R R R R R R R R R R R R R R R R R R R	RESULT CETP_H ID CA AC P A
SEQUENCE OF 9-493 FROM N.A. TISSUE-Liver; Dinchuk J.E., Hart J.T., Wirak D.O.; Submitted (FEB-1992) to the EMBL/GenBank/DDBJ databases. [6] VARIANT GLY-459. MEDLINE-94013514; PubMed-8408659;	UENCE OF 1-27 FROM ILINE-97473500; PubMs LIMB-97473500; PubMs liams S., Hayes L., amson R., Thompson in quencing of the cho- ion using artificial e 197:101-107(1997)	SEQUENCE OF 1-15 FROM N.A.  SEQUENCE OF 1-15 FROM N.A.  MEDLINE-97112972; PubMed-8943225;  MISTAL A.F., Agellon L.B., Bruce C., Ma L.,  Oliveira C.F.O., Choulnard R.A., Agellon L.B., Bruce C., Ma L.,  Walsh A., Breslow J.L., Tall A.R.;  Walsh A., Breslow J.L., Tall A.R.;  "Human cholesteryl ester transfer protein gene proximal promoter  "human cholesteryl ester transfer protein sive elements and mediates  contains dietary cholesterol positive responsive elements and mediates  expression in small intestine and periphery while predominant liver  and spleen expression is controlled by 5'-distal sequences. Cis-scting  sequences mapped in transgenic mice.";  J. Biol. Chem. 271:31831-31838(1996).	SEQUENCE FROM N.A., AND PARTIAL SEQUENCE. SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.  MEDLINE-87258172; PubMed-3600759; Drayna D., Jarnagin A.S., McLean J., Henzel W., Kohr W., Fielding C., Lawn R.; "Cloning and sequencing of human cholesteryl ester transfer protein CDNA."; NATURE 327:632-634(1987).  [2] NATURE 327:632-634(1987).  [2] NATURE FROM N.A. MEDLINE-90241928; PubMed-2334701; Agellon L.B., Quinet E.M., Gillette T.G., Drayna D.T., Brown M.L., Tall A.R.; "Organization of the human cholesteryl ester transfer protein gene."; Biochemistry 29:1372-1376(1990).	LT 1 _HUMAN STANDARD; PRT; 493 AA. CETP_HUMAN STANDARD; PRT; 493 AA. P11597; 013987; 013988; 01-0CT-1989 (Rel. 12, Created) 01-0CT-1989 (Rel. 12, Last sequence update) 16-0CT-2001 (Rel. 40, Last annotation update) Cholesteryl ester transfer protein precursor (Lipid transfer protein t). Dixaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; NABMENIA: Eutheria; Primates; Catarrhini; Hominidae; Homo. NCBI_TaxID-9606;

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RESULT
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Best Local S
Matches 26
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EMBL; M32998; AAA51978.1; JOINED.
EMBL; M32998; AAA51978.1; JOINED.
EMBL; M32993; AAA51978.1; JOINED.
EMBL; M32994; AAA51978.1; JOINED.
EMBL; M32995; AAA51978.1; JOINED.
EMBL; M32996; AAA51978.1; JOINED.
EMBL; M32996; AAA51978.1; JOINED.
EMBL; M32997; AAA51988.1; --
EMBL; M8573; AAB59388.1; --
EMBL; M8573; AAB59388; --
EMBL; M8573; --
EMBL; M8573; AAB5978; --
EMBL; M8573; AA
                 CETP_MACFA
P47896;
01-FEB-1996
01*FEB-1996
15-DEC-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (Sce http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPRO01124; LBP_BPI_CETP.
Pfam; PF01273; LBP_BPI_CETP; 1.
Pfam; PF02886; LBP_BPI_CETP_C; 1.
SMART; SM00328; BPII; 1.
SMART; SM00329; BPI2; 1.
                                                                                                                                    MACFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lipid transport; Cholesterol metabolism; Glycoprotein; Signal; Atherosclerosis; Disease mutation.

SIGNAL 1 17
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                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBCELLULAR LOCATION: Extracellular TISSUE SPECIFICITY: PLASMA; SYNTHES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Clin. Invest. 92:2060-2064(1993).
FUNCTION: CETP IS AN EXTREMELY HYDROPHOBIC I
TRANSPER OF INSOLUBLE CHOLESTERYL ESTERS IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OF CHOLESTEROL
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                                                                                                              STANDARD;
. 33, Created)
. 33, Last sequence upo
. 37, Last annotation u
r transfer protein preo
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nt effects on plasma high
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Miura T.,
                                         sequence update)
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MISSING (IN REF. 5).
I -> V (IN REF. 2).
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N-LINKED (GLCNAC. . .) (POTENTIAL).

D-9 (IN CETP DEFICIENCY).
                                                                                                                                                                                                                                                                                                              Score 134; DB 1;
Pred. No. 2.7e-13;
Nismatches 0;
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                                                                                                                                                                                                                                                                      26
  precursor
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                      update)
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(Lipid
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                                                                                                                                                                                                                                                                                                                                                          Length 493;
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  transfer protein
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Best Local
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P25914;
01-MAY-1992
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CARBOHYD
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                                                      Mesocricetus au.u._
Thearvota; Metazoa;
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SMART; SM00329; BI
PROSITE; PS00400;
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  Mesocricetus.
NCBI_TaxID=10036;
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                                              Mammalia; Eutheria;
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Pfam; PF01273; LBP_BPI_CETP; 1.
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SM00329; BPI2; 1
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                                                 Rodentia;
                                                               Chordata;
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Pred. No. 2.
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use by non-profit institutions as long as its content is in entities requires a license agreement. Usage by an entities requires a license agreement.
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"Molecular cloning, sequence, and expression of cynomolyus monkey
cholesteryl ester transfer protein inverse correlation between
hepatic cholesteryl ester transfer protein mRNA levels and plasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
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TISSUE SPECIFICITY: PLASMA; SYNTHESIZED MAINLY IN THE LIVER
SIMILARITY: BELONGS TO THE BPI/CETP/LBP/PLTP FAMILY.
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                                                                                                                         22, Created)
22, Last sequence update)
35, Last annotation update)
transfer protein (Lipid tra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ol metabolism; Glycoprotein; Signal.

BY SIMILARITY.
CHOLESTERYL ESTER TRANSFER PROTEIN.
N-LINKED (GLCNAC. . .) (POTENTIAL).
Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7E82BE3C2A8FAE0D CRC64;
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.7e-13;
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01-NOV-1997
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P22687;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          transfer protein mRNA.",

. BLO1. Chem. 266:4631-4639(1991).

-1- FUNCTION: CETP IS AN EXTREMELY HYDROPHOBIC I
TRANSFER OF INSOLUBLE CHOLESTERYL ESTERS IN
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SEQUENCE FROM N.A.
MEDLINE=9115477; PubMed=1999438;
                                                                                                                                                                                                                      EMBL, M63992; AAA37066.1; --
PIR; A38700; A38700.
InterPro; IPR001124; LBP_BPI_CETP.
Pfam; PF01273; LBP_BPI_CETP; 1.
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                                                                                                                                     Nagashima M., McLean J.W., Lawn R.M.;
"Cloning and mRNA tissue distribution
transfer protein.";
J. Lipid Res. 29:1643-1649(1988).
-1- FUNCTION: CETP IS AN EXTREMELY HYI
                                                                                                                                                                                                                                                                                                                                                Oryctolagus cuniculus (Rabbit).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RABIT
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-!- SIMILARITY: BELONGS TO THE BPI/CETP/LBP/PLTP FAMILX
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cholesteryl
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TISSUE SPECIFICITY: PLASMA.
                 OF CHOLESTEROL.
SUBCELLULAR LOCATION: Extracellular.
TISSUE SPECIFICITY: PLASMA; SYNTHESIZED MAINLY IN THE LIVER
SIMILARITY: BELONGS TO THE BPI/CETP/LBP/PLTP FAMILY.
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                                                                                                               ISTER PROTEIN.";
LIPID Res. 29:1643-1649(1988).
LIPID RES. 29:1643-1649(1988).
LIPID RES. 29:1649-1988).
LIPID RES. 29:1649-1988 PROTEIN RES. IN
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(Rel. 19, Last sequence up
(Rel. 35, Last annotation
ester transfer protein pre
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Schnitzer-Polokoff R.,
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SIGNAL
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01.NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Hypothetical protein HII371.1
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                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.

STRAIN-RD / KW20 / ATCC 51907;

MEDLINE-95550630; PubMed-7542800;

Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.I.

Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.R.

McKerney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D.,

Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M.,

Meidman J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D.,

Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R.C

Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M.,

Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SMART; SM00328; BPI1;
SMART; SM00329; BPI2;
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                                                                                                                                                                                              Science [2]
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                                                                                               White O., Clayton R.A., Submitted (SEP-1996) to
                                                             Submitted (SEP-1996) to -1- SIMILARITY: STRONG,
                                                                                                                                                            REVISIONS
                                                                                                                                                                                                                                                        "Whole-genome random influenzae Rd.";
                                                                                                                                                                                                                                                                                                                         Venter J.C.;
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                                                                                               lavage A.R., Fleischmann
EMBL/GenBank/DDBJ databa
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                                                          or send an
                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR 2002 (Rel. 41, Created)
01-MAR 2002 (Rel. 41, Last sequence up
01-MAR 2002 (Rel. 41, Last annotation
40S ribosomal protein 510-2.
RPS10B OR AT5641520 OR MBK23.4.
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                                                                                                                                                                                                                                                                                                                Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.
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Bukaryota; Viridiplantae; Streptophyta; Embryophyta;

Spermatophyta; Magnoliophyta; edicotyledons; core e
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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                                                                                                                                                                                                                                                                                                                                                Ecker J.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-CV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Miyajima N., Tabata S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=CV. COLUMBIA;
MEDLINE=97471969; PubMed=9330910;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; TPR000541; UPF0021.
Pfam; PF01171; UPF0021; 1.
Hypothetical protein; Complete
SEQUENCE 313 AA; 35703 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA Res. 4:215-230(1997).
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SIMILARITY: BELONGS TO THE SIDE FAMILY OF RIBOSOMAL PROTEINS
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8; Conser
                                                               non-profit institutions as long and this statement is not removed requires a license agreement (See an email to license@isb-sib.ch).
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                                                                                                                                                                                              CONFLICT
SEQUENCE
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MEDLINE-9416273; PubMed=7764507;
MEDLINE-9416273; PubMed=7764507;
Yamada M., Yanai S., Talkuder A.;
*Analysis of products of the Escherichia coli genomic genes and regulation of their expressions: an applicable procedure for genomic analysis of other microorganisms.*;
**Talkana** **Talkana** **Talkana*** **Talkana** **Talkana*** **Talkana** **
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Hypothetical protein; Complete
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Pfam; PF01171; UPF0021;
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                                                                                                                                                                                                                                                                                                    ECOGene; EG13357; ydaO.
                                                                                                                                                                                                                                                                                                                                                                                     entities requires a license agreement (S or send an email to license@isb-sib.ch).
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Mau B., Shao Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-K12 / MG1655;
MEDLINE-97426617; PubMed-9278503;
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SIMILARITY: STRONG, TO H.INFLUENZAE HI1371.1.
  GEPEHVLPEYLEKL
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                                                                                                     DB 1;
1.9;
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Usage by
                                                                                                                          Length 311;
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TSD1_ABIGR
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PO08B7; P78301;

21-JUL-1986 (Re

01-MAR-1992 (Re

16-OCT-2001 (Re
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     *Monoterpene Synthases from grand fir (Abies grandis). cDNA isolation, characterization, and functional expression of myrcene synthase, (-)-(4S)-limonene synthase, and (-)-(1S,5S)-pinene synthase.";

J. Biol. Chem. 272:21784-21792(1997).

-1- FUNCTION: Involved in defensive oleoresin formation in conifers in response to insect attack or other injury. Involved in monoterpene (CO) olefins biosynthesis. A mixture of alpha-and beta-pinene is
                                                                                                                                                                                                                                                                                                                                                                                                                 ACT_SITE
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SEQUENCE
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01-MAR-2002 (Rel. 41, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
Pinene synthase, chloroplast precursor (EC 4.
synthase) (-)-(15,55)-pinene synthase).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mendel; 27004; Abigr:2508;27004.
InterPro; IPR001905; Terp_synth, fam.
Pfam; PF01397; Terpene_synth; 1.
Lyase; Manganese; Transit peptide; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Extremental Bioinformatics Institute. There are no restitute by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Viridiplantae; Stre
Spermatophyta; Coniferopsida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TSD1_ABIGR 024475;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   produced by this enzyme.
CATALYTIC ACTIVITY: Geranyl diphosphate
COFACTOR: Manganese and potassium.
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SIMILARITY: BELONGS TO THE TERPENE SYNTHASE FAMILY
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ida; Coniferales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    peptide; Chloroplast
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PINENE SYNTHASE.
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zurawski G., Gunsalus R.P., Brown K.D., Yanofsky C.;
"Structure and regulation of arol, the structural gene
tryptophan-repressible 3-deoxy-D-arabino-heptulosonic
acid-7-phosphate synthetase of Escherichia coli.";
J. Mol. Biol. 145:47-73(1981)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Aiba H., Baba T., Fujita K., Hayashi K., Inada T., Isono K., Itoh T., Kasai H., Kashimoto K., Kimura S., Kitakawa M., Kitagawa M., Makino K., Miki T., Mizobuchi K., Mori H., Mori T., Motomura K., Nakade S., Nakamura Y., Nashimoto H., Nishio Y., Oshima T., Saito N., Sampel G., Seki Y., Sivasundaram S., Tagami H., Takeda J., Takemoto K., Takeuchi Y., Wada C., Yamamoto Y., Horiuchi T.; Takemoto K., Takeuchi Y., Wada C., Yamamoto Y., Horiuchi T.; "A 570-kb DNA sequence of the Escherichia coli K-12 genome corresponding to the 28.0-40.1 min region on the linkage map."; DNA Res. 3:363-377(1996).
entities requires a or send an email to
                                              the European Bioinformatics Institute. The use by non-profit institutions as long a modified and this statement is not removed.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ray J.M., Yanofsky C., Bauerle R.;
"Mutational analysis of the catalytic and feedback sites of the tryptophan-sensitive 3-deoxy-D-arabino-heptulosonate-7-phosphate synthase of Escherichia coli.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Phospho-2-dehydro-3-deoxyheptonate aldolase, Trp-sensitive (EC 4.1.2.15) (Phospho-2-keto-3-deoxyheptonate aldolase) (DAHP synthetase) (3-deoxy-D-arabino-heptulosonate 7-phosphate synthase).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=97251357; PubMed=9097039;
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MEDLINE-97426617; PubMed-9278503;
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                                                                                                                                                                                                                                                                               AND D-ERYTHROSE-4-PHOSPHATE (E4P) GIVING RISE TO 3-DEOXY-D ARABINO-HEPTULOSONATE-7-PHOSPHATE (DAHP).

CATALYTIC ACTIVITY: 2-dehydro-3-deoxy-D-arabino-heptonate phosphate + phosphate = phosphoenolpyruvate + D-erythrose phosphate + H(2)O.

PATHWAY: FIRST STEP IN THE BIOSYNTHESIS OF CHORISMATE WITH THE BIOSYNTHESIS OF AROMATIC AMINO ACIDS (THE SHIKIMATE PAMISCELLANEOUS: THERE ARE 3 DAHP SYNTHASES, AROH IS PEEDBACK-INHIBITED BY TRP. THE OTHER 2 DAHP SYNTHASES ARE DEGESTRATIVE DESCRIPTIVE
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                                                                                                                                                                                                                                PHE-SENSITIVE, RESPECTIVELY.
SIMILARITY: BELONGS TO CLASS-I DAHP SYNTHETASE FAMILY.
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                                                                                                                                            SWISS-PROT entry is copyright. It is produced through a een the Swiss Institute of Bioinformatics and the EMBI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          complete genome sequence of 
nce 277:1453-1474(1997).
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01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation updat
Compound eye opsin BCRH2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sanguineus.";

J. EXP. Biol. 199:441-450(1996).

-!- FUNCTION: VISUAL PIGNENTS ARE THE LIGHT-ABSORBING MOLECULES THAT MEDIATE VISION. THEY CONSIST OF AN APOPROTEIN, OPSIN, COVALENTLY MEDIATE VISION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eubrachyura; Eucarida; Decapoda; Pleocyemata; Eubrachyura; Grapsoidea; Varunidae; Hemigrapsus. MCBI_TaxID-40176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
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EMBL;
EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hemigrapsus sanguineus (Crab).
Eukaryota; Metazoa; Arthropoda; Crustacea; Malacostraca;
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                                            EMBL; D50584; BAA09133.1;
                                                                                                                                    use by non-profit institutions as long modified and this statement is not removed
                                                                                                                                                                                                                                                                                                                                                     -1-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Two opsins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sakamoto K., Hisatomi O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Eye;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OPS2_HEMSA
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BL; J04221; AAA23493.1; -.
BL; AE0002565; AAC74774.1; -.
BL; D90813; BAA15473.1; -.
BL; V00261; CAA23510.1; -.
BL; V00261; CAA23510.1; -.
BL; X04373; CAA27956.1; -.
R; J01131; ADECH.
                                                                                                                                                                                                                                                                                                                        LINKED TO CIS-RETINAL. THIS OPSIN PRODUCES VISUAL PIGMENTS WITH MAXIMAL ABSORPTION IN THE BLUE-GREEN REGION OF THE SPECTRUM. SUBCELLULAR LOCATION: Integral membrane protein.
TISSUE SPECIFICITY: EXPRESSED IN ALL OF THE SEVEN RETINULAR CELLS (RI-R7) FORMING THE MAIN RHABDOM IN EACH OWNATIDIUM.
PTM: SOME OR ALL OF THE CARBOXYL-TERMINAL SER OR THR RESIDUES MAY BE PHOSPHORYLATED (BY SMILARITY).
                                                                                                                                                                                 s SWISS-PROT entry is copyright. It is produced ween the Swiss Institute of Bioinformatics and Buropean Bioinformatics Institute. There are I
                                                                                                                                                                                                                                                                                                         SIMILARITY:
                                                                                                                                                                                                                                                                                  OPSIN SUBFAMILY
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m; PD005060; DAHP_synth_1; 1.
                      GCR_1067;
                                                                                       s requires a license agreement (See http://www.isb-sib.ch/announce/
an email to license@isb-sib.ch).
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IPR000276; GPCR_Rhodpsn
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123 E -> G (IN REF. 2).

205 RAS -> AQ (IN REF. 2).

333 S -> T (IN REF. 3 AND 4).

334 SE -> RQ (IN REF. 2 AND 5).

38721 MW; F293C482447226E6 CRC64;
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b Hemigrapsus
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L outstation -
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RESULTATION APATACLAR APAT
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Best Local
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01-JUN-1994
01-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ul-uun-1994 (Rel. 29, Last sequence update) 01-0CT-1994 (Rel. 30, Last annotation update) Clathrin coat assembly protein AP47 (Clathrin AP47) (Golgi adaptor AP-1 47 kDa protein) (HA1 (Clathrin assembly protein assembly protein co
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AP47_(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BINDING
CARBOHYD
SEQUENCE
                                     "unc-101, a gene required for many aspects of Caenorhabditis elegans development and behavior, encodes a clathrin-associated protein."; Genes Dev. 8:60-73(1994).

-1- FUNCTION: COMPONENT OF THE ADAPTOR COMPLEXES WHICH LINK CLATHRIN TO RECEPTORS IN COATED VESICLES. CLATHRIN-ASSOCIATED PROTEIN COMPLEXES ARE BELIEVED TO INVERACT WITH THE CYTOPLASMIC TAILS OF MEMBRANE PROTEINS, LEADING TO THEIR SELECTION AND CONCENTRATION. AP47 IS A SUBUNIT OF THE PLASMA MEMBRANE ADAPTOR.

-1- FUNCTION: REQUIRED FOR MANY ASPECTS OF DEVELOPMENT AND BEHAVIOR, INCLUDING NEGATIVE REGULATION OF VULVAL DIFFERENTIATION.

-1- SUBUNIT: ASSEMBLY PROTEIN COMPLEX 1 (AP-1) IS A HETEROTETRAMER COMPOSED OF TWO LARGE CHAINS (GAMMA BAND BETA'), A MEDIUM CHAIN (AP47) AND A SMALL CHAIN (AP19).
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DOMAIN
                                                                                                                                                                                                                                                                                           Lee J., Jo
"unc-101,
                                                                                                                                                                                                                                                                                                                                     MEDLINE-94116859;
                                                                                                                                                                                                                                                                                                                                                        STRAIN-BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
Rhabditidae; Pelode
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Caenorhabditis elegans
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PRINTS; PR00237; GPCRRHODOPSN.

PROSITE; PS00237; G_PROTEIN_RECEP_F1_1;

PROSITE; PS50262; G_PROTEIN_RECEP_F1_2;
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                          SUBCELLULAR LOCATION:
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Jongeward G.D., Sternberg
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9; Conser
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      COATED
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                          COMPONENT OF
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CYTOPLASMIC.
6 (POTENTIAL).
EXTRACELLULAR.
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Pred. No. 8
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EXTRACELLULAR.
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AT THE GOLG
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  the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                        Madden T.E., Clark V.L., Kuramitsu H.K.;
"Revised sequence of the Porphycomonas gingivalis prtT cysteine protease/hemaggluthin gene: homology with streptococcal pyrogenic exotoxin B/streptococcal proteinase.";
Infect. Immun. 63:238-247(1995).
-1- FUNCTION: APPEARS TO BE SPECIFIC FOR ARGININE-CONTAINING PEPTIL BONDS. POSSESSES HEMAGGLUTININ ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRTT_PORGI
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                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Experience of the swiss institute of the swiss 
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MEDLINE=95105001; PubMed=7806362;
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Bacteria; CFB
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PROSITE; PS00991; CLAT_ADAPTOR_M_2;
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CAUTION: IT IS UNCERTAIN WHETHER MET-1 OR MET-17 18 THE INITIATOR.
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cPro; IPR001392; Adap_comp_sub.
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group; Bact
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Bacteroidetes; Bacteroidales; Porphyromonadaceae;
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                                                                                                                                               Durbin R.;
Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases.
-!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; K04H4.2A (SHOWN HERE)
K04H4.2B; ARE PROBABLY PRODUCED BY ALTERNATIVE SPLICING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-FEB-1994 (Rel. 28, Created)
30-MAY-2000 (Rel. 3), Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
Hypothetical 130.6 kDa protein K04H4.2 in c
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MEDLINE-94150718;
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Rhabditidae; Peloderinae;
                                                                      use by non-profit institutions as long modified and this statement is not removed.
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                                                                                             SWISS-PROT entry is copyright. It is produced through a ceen the Swiss Institute of Bioinformatics and the EMBL European Bioinformatics Institute. There are no restrict
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s requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).

EMBL; Z27078; CAA81587.1; -. EMBL; Z27078; CAA81588.1; -. PIR; S40992; S40992.

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RESULT 14
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T 01-MAR-2002 (Rel. 41, Last sequence update)
T 01-MAR-2002 (Rel. 41, Last annotation update)
E 40S ribosomal protein S10-1.
N RPS10A OR ATIG25740 OR F14M19.20.
SARADIdopsis thallana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryoph
Spermatophyta; Magnollophyta; eudicotyledons; cceurosids II; Brassicales; Brassicaceae.
                                                                                                                                                                                                        STRAIN-CV. COLUMBIA;

MEDLINE-20083488; PubMed-10617198;

Mayer K.F.X., Schueller C., Wambutt R., Murphy G., Volckaert G.,

Mayer K.F.X., Schueller C., Wambutt R., Entian K.-D., Terryn N.,

Pohl T., Duesterhoeft A., Stiekema W., Entian K.-D., Terryn N.,

Harris B., Ansorge W., Brandt P., Grivell L.A., Rieger M.,

Kreis M., Delseny M., Delsencech P., Watson M., Schmidtheini T.,

Reichert B., Portetelle D., Perez-Alonso M., Boutry M., Bancroft I.,

Vos P., Hoheisel J., Zimmermann W., Wedler H., Ridley P.,

Langham S.-A., McCullagh B., Bilham L., Robben J.,

Van der Schueren J., Grymonprez B., Chuang Y.-J., Vandenbussche F.,

Braeken M., Weltjens I., Voet M., Bastiaens I., Aert R., Defoor E.,

Meitzenegger T., Bothe G., Ramsperger U., Hilbert H., Braun M.,

Holzer E., Brandt A., Deters S., van Staveren M. Divise W.
Weitzenegger T., Bothe G., Ramsperger U., Hilbert H., Braun M. Holzer E., Brandt A., Peters S., van Staveren M., Dirkse W., Mooijman P., Klein Lankhorst R., Rose M., Hauf J., Koetter P., Bernelser S., Hempel S., Feldpausch M., Lamberth S., Van den D. D. Keyser A., Buysshaert C., Glelen J., Villarroel R., De Cler Van Montagu M., Rogers J., Cronin A., Quail M., Bray-Allen S., Clark L., Doggett J., Hall S., Kay M., Lennard N., McLay K., M. Pettett A., Rajandream M.-A., Lyne M., Benes V., Rechmann S.,
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InterPro; IPR002899; EB.
SMART; SM002494; ChiED2; 1.
SMART; SM00289; WR1; 14.
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PIR; S40994; S40994.
HSSP; P10968; 2CWG;
WormPep; K0444.2A; CE19967.
WormPep; K0444.2B; CE19968.
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Pred. No. 41;
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DSDTNSTTNPSQPETTKTKNNTKKSNSSKKHRKPKKKDVDP
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STQRCDLHTLCPPDFTCSLSGKCCKLNIHCPDGTVPETSCQ
SASNHDHCPSSSHKCTLLNKEHFACCYSPGLVVEGSVTAEV
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LIIGDCEVDTRVKKCDIDIIGPEMSECVDGICCKQPPKARC
GNGLMALSIPVHCSLSDDCPIASRCEYGKCCPFLSESADST
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ANCTSDEDCFTTFKCYQGCCKLAVCPRSLTAVKFTCKTQYH
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den Daele
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16-OCT-2001 16-OCT-2001 094605 Alm2

(Rel. 40, Created) (Rel. 40, Last seq

sequence update)

RESULT 15 A1M2\_HUMAN

HUMAN

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RA Gibbons T., Weber N., Vandenbol M., Bargues M., Terol J., Torres A.,
RA Gibbons T., Weber N., Vandenbol M., Bargues M., Terol J., Torres A.,
RA Perez-Perez A., Purnelle B., Bent E., Johnson S., Tacon D., Jesse T.,
RA Heijnen L., Schwarz S., Scholler P., Heber S., Francs P., Bielke C.,
RA Perishman D., Haase D., Lemcke K., Mewes H.-W., Stocker S.,
RA Perishman D., Haase D., Lemcke K., Mewes H.-W., Stocker S.,
RA Perishman D., Haase D., Lemcke K., Mewes H.-W., Stocker S.,
RA Jaccaria P., Beyan M., Wilson R.K., de la Bastide M., Habermann K.,
RA Schoneking T., Kalicki J., Graves T., Harmon G., Edwards J.,
Stoneking T., Kalicki J., Graves T., Harmon G., Edwards J.,
RA Stoneking T., Kalicki J., Graves T., Harmon G., Edwards J.,
RA Latreille P., Courtney L., Cloud J., Abbott A., Scott K., Johnson D.,
RA Minx P., Bentley D., Fulton B., Miller N., Greco T., Kemp K.,
RA Kramer J., Fulton L., Mardis E., Dante M., Pepin K., Hillier L.,
RA McLson J., Spieth J., Ryan E., Andrews S., Geisel C., Layman D.,
RA Nelson J., Spieth J., Ryan E., Andrews S., Geisel C., Layman D.,
RA Antonolu B., Zidanic M., Strong C., Sun H., Lamar B., Yordan C.,
RA Antonolu B., Zidanic M., Strong C., Sun H., Lamar B., Yordan C.,
RA Antonolu B., Zidanic M., Strong C., Sun H., Lamar B., Yordan C.,
RA Antonolu B., Zidanic M., Strong C., Sun H., Lamar B., Yordan C.,
RA Swaby I.K., O'Shaughnessy A., Rodriguez M., Hoffman J., Till S.,
RA Schunce and analysis of chromosome 4 of the plant Arahidonals
                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-CV. COLUMBIA;

Yamada K., Liu S.X., Sakano H., Pham P.K., Banh J., Chung M.K.,

Yamada K., Liu S.X., Ouach H.L., Tang C., Toriumi M., Yu G.,

Goldsmith A.D., Lee J.M., Quach H.L., Tang C., Toriumi M., Yu G.,

Bowser L., Carninci P., Chen H., Cheuk R., Hayashizaki Y., Ishida

Jones T., Kamiya A., Kariin-Neumann G., Kawai J., Kim C., Koesema

Lam B., Lin J., Meyers M.C., Miranda M., Narusaka M., Nguyen M.,

Palm C.J., Sakurai T., Satou M., Seki M., Shinn P., Southwick A.,

Palm C.J., Sakurai T., Satou M., Seki M., Shinn P., Southwick A.,

Shinozaki K., Davis R.W., Ecker J.R., Theologis A.,

"Full Length CDNA of gene AT4925740 (GI:7269424).",

Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.

-i- SUBCELLULAR LOCATION: Cytoplasmic (By similarity).

-i- SIMILARITY: BELONGS TO THE S10E FAMILY OF RIBOSOMAL PROTEINS.
                                                                                                                                                                                                                                                                EMBL;
                                                                                                                                                                                                                                                                                                                                                                                       use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entities requires a license agreement (See http://www.isb-
                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collable between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. The European Bioinformatics Institute. The European Bioinformatics Institute.
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EMBL; AL161563; CAB81384.1;
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17
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                                            1 RDGFLLLQMDFGFPEHLLVD
KEGVCFAKKDFNLPKHPLID
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                                                                                                                                                                                                                                                                AY035172; AAK59676.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         402:769-777(1999).
                                                                                                                                                                                                                   protein; Multigene family 177 AA; 19447 MW; BEEF
                                                                                               Conservative
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36
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                                                                                                                                            Score 45;
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Best Local
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Interpro; IPR001392; Adap_comp_sub.
Pfam; PF00928; Adap_comp_sub; 1.
PRINTS; PR00314; CLATHRINADPT.
PROSITE; PS00990; CLAT_ADAPFOR_M_1; 1.
PROSITE; PS00991; CLAT_ADAPFOR_M_2; 1.
COated plis; Phosphorylation.
SEQUENCE 423 AA; 48108 MM; A3F6FDE86
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Adaptor related protein complex 1 mu 2 subunit (Clathr:n coat assembly protein AP47 2) (Clathrin coat assembly protein AP47 2) (Clathrin coat assembly protein AP-1 47 kDa protein) (HAI 47 kDa subunit 2) (Clathrin assembly protein assembly protein assembly protein assembly protein complex 1 medium cha:n 2) (AP-mu
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Ohno H., Tomemori T., Nakatsu F.,
Foelsch H., Meliman I., Saito T.,
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Mammalia; Eutheria;
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                                                                   104
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hes 9; Conserv
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                                                               RDGFLLLQ-----MDFGFPE 15
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h H., Mellman I., Saito T., Shirasawa T., Bonifacino
a novel adaptor medium chain expressed in polarized
                                                                                                                       Conservative
             18,
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             2002,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OM protein - protein search, using sw model
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB DB
                                                                                                                                                                                            Score
                                                          56
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I SP_bacter
I Sp_bacter
I Sp_bacter
I Sp_humann:
I Sp_numann:
I Sp_virus
I Sp_virus
I Sp_unclau
II Sp_unclau
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Match
    91.8
441.8
40.3
39.6
39.6
30.3
35.8
35.8
35.8
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Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RDGFLLLQMDFGFPEHLLVDFLQSLS
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sp_phage:*
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sp_bacteria:*
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                                                                                                                                                                                                                                                                                                       sp_unclassified:*
sp_rvirus:*
sp_bacteriap:*
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sp_virus:*
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                                                        Q9CN39
Q99XL0
Q97ND6
Q97ND6
Q9KS29
Q9JUE9
Q9JUE9
Q9GE80
Q9FFS8
Q9FFS8
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Ogcn39 pasteurella
Ogsn10 streptococc
Ogsn16 streptococc
Ogsn26 streptococc
Ogsn29 vibrio chol
Ogsu29 vibrio chol
Ogsu29 nelsseria m
Ogce80 lactococcus
Ogff88 arabidopsis
Ogff88 arabidopsis
Ogff80 abies grand
Ogsp40 sulfolobus
Ogf2a1 chromatium
Ogsh65 schizosacch
Ogsn2715 arabidopsis
Og2715 arabidopsis
Og2715 arabidopsis
                                                                                                                                                                       Q9bg59 tupaia glis
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45	44	<b>4</b> 3	42	41	40	39	38	37	36	35	34	ω ω	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	
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ພ ພ ຄ	33.6	33.6	٠						34.3	34.3	34.3	34.3		34.3	34.3	34.3	34.3	34.3			35.1				35.8		•		
4 2 5	425	313	265	177	78	628	1252	1071	886	849	694	567	428	422	374	356	312	104	1992	618	311	165	306	227	1173	682	442	438	
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Q9CWP7	Q9BSI8	Q92PH1	058456	Q9SW09	Q977T3	Q9SF51	Q9VTY9	Q9P388	Q53481	081906	Q9SVK2	Q12108	Q9SAC9	002282	Q97JJ5	Q980M3	Q9PFT8	Q92U58	Q9P6T1	Q948Z0	Q93E30	015887	Q99ZH1	Q92KY0	Q9V7J8	083654	Q90YC0	023140	
Q9cwp7 mus musculu	09bs18 homo sapien	Q92ph1 rh1zobium m		Q9sw09 arabidopsis	Q977t3 uncultured	Q9sf51 arabidopsis	α.		Q53481 porphyromon	Ç,	Q9svk2 arabidopsis	Q12108 saccharomyc	Q9sac9 arabidopsis	002282 caenorhabdi	Q97jj5 clostridium	Q980m3 sulfolobus		_	Q9p6t1 neurospora	Q948z0 abies grand	Q93e30 salmonella	đ	Q99zhl streptococc	Q92ky0 rhizobium m	drosophila	O83654 treponema p	Q90yc0 carassius a	023140 arabidopsis	

### ALIGNMENTS

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                                                                                                                                                           Query Match 91.8
Best Local Similarity 92.3
Matches 24; Conservative
                                                                                                                                                                                                                                                                                                                                                          "Cloning and sequencing of tree shrew cholesteryl ester_transfer protein (CETP) CDNA.";
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
EMBL: AF33403; AAK08086.1; -.
InterPro: IPR001124: LBP_BPI_CETP.
Pfam; PP01273; LBP_BPI_CETP; 1.
Pfam; PP02886; LBP_BPI_CETP_C; 1.
SMART: SM00328; BPII; 1.
SMART: SM00328; BPII; 1.
PROSSITE; PS00400; LBP_BPI_CETP; 1.
PROSSITE; PS00400; LBP_BPI_CETP; 1.
NON_TER
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2605E76D2635C367 CRC64;
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Q9BG59;
01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
CHOLESTERYL ESTER TRANSFER PROTEIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Scandentia; Tupaiidae; Tupaia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9395;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tupaia glis (Tree shrew).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Zeng W.W., Chen B.S., Zhang J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-LIVER;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
460 QDGFLLLQMDFGFPEHLPVDFLQSLS 485
                                    1 RDGFLLLQMDFGFPEHLLVDFLQSLS
                                                                                                                                                                                                        91.8%;
                                                                                                                                                               1;
                                                                                                                                                                                                        Score 123; DB 6;
Pred. No. 8.6e-11;
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RESULTATION OF THE PROPERTY OF
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Q9CN39;
01-JUN-2001
01-JUN-2001
01-DEC-2001
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01-JUN-2001
01-DEC-2001
                                                        InterPro;
InterPro;
InterPro;
InterPro;
                                                                                                                                                                     ASPARAGINYL-TRNA(ASN)).

-!- SUBURIT: HOMODIMER (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO CLASS-II AMINOACYL-TRNA SYNTHETASE FAMILY.
EMBL; AE006633; AAK34793.1; -.
                                                                                                                                                                                                                                                                                                                          Perretti J.J., McShan W.M., Ajdic D.J., Savic D.J., Savic G., Lyor Primeaux C., Sezate S., Suvocov A.N., Kenton S., Lai H.S., Lin S., Qian Y., Jia H.G., Najar F.Z., Ren O., Zhu H., Song L., White J., Yuan X., Clifton S.W., Roe B.A., McLaughlin R.; Song L., White J., "Complete genome sequence of an Mistrain of Streptococcus pyogen Proc. Natl. Acad. Sci. U.S.A. 98:4658-4663(2001).

-1 CATALYTIC ACTIVITY: ATP + L-AMINO ACID + TRNA(AMINO ACID) = All PYROPHOSPHATE + L-AMINOACYL-TRNA(AMINO ACID).

-1 CATALYTIC ACTIVITY: ATP + L-ASPARTATE (OR L-ASPARRAGINE) + TRNA(ASS) - AMP + PYROPHOSPHATE + L-ASPARTATE TRNA(ASS) (OR L-ASPARRAGINE) + TRNA(ASS) - AMP + PYROPHOSPHATE + L-ASPARTIVIT-TRNA(ASS) (OR L-ASPARRAGINE)
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   May B.J., Zhang Q., Li L.L., Paustian M.L., Whittam T.S., Kapur V., "Complete genomic sequence of Pasteurella multocida Pm70."; Proc. Natl. Acad. Sci. U.S.A. 98:3460-3465(2001).
EMBL; AE006096; AAK02690.L; -.
Hypothetical protein; Complete proteome.
SEQUENCE 314 AA; 36080 MW; 3C0EA33486CF62ED CRC64;
                                                                                                                                                             HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Streptococcus.
NCBI_TaxID=1314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-SF370 / ATCC 700294 / SEROTYPE M1;
MEDLINE-21192684; PubMed-11296296;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacteria; Firmicutes; Bacillus/Clostridium group; Streptococcaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Streptococcus pyogenes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PUTATIVE ASPARTYL-TRNA SYNTHETASE (ECASPS OR SPY2156.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUN-2001 (TremBLrel, 17, 01-JUN-2001 (TremBLrel, 17, 01-DEC-2001 (TremBLrel, 19, HYPOTHETICAL PROTEIN PMO606.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q99XL0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=747;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pasteurella multocida
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                                                                                                                                                                P36419; 1EFW
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     ; IFR004115; GAD.
; IFR004364; TRNA-SYNT_2.
o; IFR002312; TRNA-SYNT_ASP.
ror002313; TRNA-SYNT_1YS_2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
9; Conserv
                                                                                                          IPR002106; AA_tRNA_ligase_II.
IPR004115; GAD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TremBLrel. 17, Created)
(TremBLrel. 17, Last sequence update)
(TremBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
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64.3%;
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Last annotation update)
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Pred.
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ACCOMENS TO THE PROPERTY OF TH
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Q97ND6
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Matches 10
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Best Local Similarity
Matches 10; Conserv
                                                                                                                                                                                                                        InterPro; IPR002106; AA_tRNA_ligase_II.
InterPro; IPR004115; GAD.
InterPro; IPR004154; tRNA-synt_2:
InterPro; IPR002312; tRNA-synt_lasp.
InterPro; IPR002313; tRNA-synt_lys_2.
InterPro; IPR002313; tRNA_anti.
InterPro; IPR004365; tRNA_anti.
Pfam; PF002938; GAD; 1.
Pfam; PF00152; tRNA-synt_2; 2.
Pfam; PF00152; tRNA-synt_1; 1.
PRINTS; PR01042; TRNASYNTHASP.
PRINTS; PR01042; TRNASYNTHASP.
PRINTS; PR01082; TRNASYNTHASP.
PRINTS; PR01082; TRNASYNTHASP.
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pfam; pF02938; GAD; 1.

Pfam; pF00152; tRNA-synt_2; 2.

Pfam; pF01336; tRNA_anti; 1.

PRINTS; pR01042; TRNASYNTHASP.

PRINTS; PR010982; TRNASYNTHLYS.

PROSITE; PS00179; AA_TRNA_LIGASE_II_1; 1.

PROSITE; PS00339; AA_TRNA_LIGASE_II_2; UR
                                                                                                                                                                                PRINTS; P. PROSITE; PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tettelin H., Nelson K.E., Paulsen I.T., Elsen J.A., Read T.D., Peterson S., Heidelberg J., DeBoy R.T., Haft D.H., Dodson R.J., Durkin A.S., Gwinn M., Kolonay J.F., Nelson W.C., Peterson J.D., Umayam L.A., White O., Salzberg S.L., Levis M.R., Radune D., Holtzapple E., Khouri H., Wolf A.M., Utterback T.R., Hansen C.L., McDonald L.A., Feldblyum T.V., Angiuoll S., Dickinson T., Hickey I Holt I.E., Loftus B.J., Yang F., Smith H.O., Venter J.C., Dougherty B.A., Morrison D.A., Hollingshead S.K., Fraser C.M.; "Complete genome sequence of a virulent isolate of Streptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Science 293:498-506(2001).
EMBL; AE007500; AAK76173.1;
TIGR; SP2114; -
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PS00339; AA_TRNA_LIGASE_II_2; UNKNOWN_1.
1-tRNA synthetass: Complete proteome.
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MEDLINE-20406833; PubMed-10952301;
Heidelberg J.F., Elsen J.A., Nelson W.C., Clayton R.A., Gwinn M.L.,
Dodson R.J., Haft D.H., Hickey E.K., Peterson J.D., Unayam L.A.,
Gill S.R., Nelson K.E., Read T.D., Tettelin H., Richardson D.,
Ermolaeva M.D., Vamathevan J., Bass S., Oln H., Dragod I., Sellers P.
McDonald L., Utterback T., Fleischmann R.D., Nierman W.C., White O.,
Salzberg S.L., Smith H.O., Colwell R.R., Mekalanos J.C., Venter J.C.,
Fraser C.M.;
                                                                                              STRANM-22491 / SEROGROUP A / SEROTYPE 4A;
MEDLINB-2022556; PubMed-10761919;
Parkhill J. Achtman M., James K.D., Bentley S.D., Churcher C.,
Klee S.R., Morelli G., Basham D., Brown D., Chillingworth T.,
Davies R.M., Davis P., Devlin K., Feltenell T., Hamlin N., Holroyd
Jagels K., Leather S., Houle S., Mungall K., Quail M.A.,
Rejandream M.A., Rutherford K.M., Simmonds M., Skelton J.,
Whitehead S., Spratt B.G., Barrell B.G.;
"Complete DNA sequence of a serogroup A strain of Neisseria
meningitidis 22491."
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STRAIN-EL TOR N16961 /
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Bacteria; Proteobacteria; beta subdivision;
NCBI_TaxID=65699;
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Nature 404:502-506(2000).
EMBL; AL162755; CAB84597.1;
InterPro; IPR001064; Crysta
                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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EMBL; AE004222; AAF94589
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O (TrEMBLrel. 15,
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AL PROTEIN VC1432.
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L PROTEIN NMA1350.
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White O.,
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RESULT
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                                                                                                                                                            InterPro: IPRO02106; AA_tRNA_ligase_II.
InterPro: IPR002312; trNA-synt_asp.
InterPro: IPR002313; trNA-synt_lsg.2.
InterPro: IPR004365; trNA_anti,
InterPro: IPR004365; trNA_anti,
Pfam; PF01136; trNA_anti; 1.
PRINTS: PR01042; TRNASYNTHASS.
PRINTS: PR01042; TRNASYNTHASS.
PRINTS: PR00982; TRNASYNTHASS.
PROSITE; PS00179; AA_TRNA_LIGASE_II_1; 1.
ATP-binding; Aminoacy1-trNA synthetase; Cc
Protein biosynthesis.
SEQUENCE 590 AA; 66544 MW; A323D47704;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9CE80;
01-JUN-2001
01-JUN-2001
01-DEC-2001
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 Q914E6;
                                                                                                                                                                                                                                                                                 -!- SUBUNIT: HOMODIMÉR (BY SIMILARITY).
-!- SUBCELULAR LOCATION: CYTOPLASMIC (BY SIMILARITY)
-!- SIMILARITY: BELONGS TO CLASS-II AMINOACYL-TRNA SY
-!- SIMILARITY: BELONGS TO ASPARTYL-TRNA SYNTHETASE F
EMBL; AE006426; AAK06063.1; -.
HSSP; P36419; 1EFW.
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Bolotin A., Wincker P., Mauger S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation updat
ASPARTYL-TRNA SYNTHETASE (EC 6.1.1.12).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM
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                                                                GFLLEALDYGFPPH
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10; Conservative
                                                                                                          Similarity
9; Conserv
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           PRELIMINARY;
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Pred. No. 5.2;
2; Mismatches
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                                                                                                          Score 53; DB Pred. No. 7.4; 2; Mismatches
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Sorokin A.;
of the lactic
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           PRT;
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623B51BCD8212A9E CRC64;
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group; Streptococcaceae;
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ROSTRAIN-ATCC 15692 / PAO1;

XX MEDLINE-2043/337; PubMed-10984043;

XX MEDLINE-2043/337; PubMed-10984043;

XX Hickey M.J., Brinkman F.S.L., Hidragle W.O., Kowalik D.J., Lagrou A. Hickey M.J., Brinkman F.S.L., Hidragle W.O., Kowalik D.J., Lagrou A. Hickey M.J., Brinkman F.S.L., Hidragle W.O., Kowalik D.J., Lagrou A. Hickey M.J., Polentino E., Westbrock-Wadman S., Yuan Y. A. Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M. Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T., A. Reizer J., Saler M.H., Hancock R.E.M., Lory S., Olson M.V.;

Romplete genome sequence of Pseudomonas aeruginosa PAO1, an opportunistic pathogen.";

Romplete genome sequence of Pseudomonas aeruginosa PAO1, an opportunistic pathogen.";

Rombin ABO459; AAG04581.1;

REMBL, ABO4599; AAG04581.1;
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Best Loc
Matches
                                                                     Cheuk R., Chen H., Kim C.J., Koesema E., Meyers M.C., Shinn P., Tracy S.E., Banh J., Bowser L., Carninci P., Chung M.K., Goldsmith A.D., Hayashizaki Y., Ishida J., Jones T., Kamiya A., Karlin Neumann G., Kawai J., Lam B., Lee J.M., Lin J., Liu S.X., Miranda M., Narusaka M., Nguyen M., Palm C.J., Pham P.K., Quach H., Sakurai T., Satou M., Seki M., Southwick A., Tang C.C. Toriumi M., Yamada K., Yu G., Shinozaki K., Davis R.W., Theologis
                                                                                                                                                                                                                                                                                                                                                                     STRAIN-COLUMBIA; PubMed-9330910; MEDLINE-97471969; PubMed-9330910; Sato S.; Kotani H., Nakamura Y., Kaneko T., Miyajina N., Tabata S.; "Structural analysis of Arabidopsis thaliana features of the 1.6 Mb regions covered by tw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OPFESS;
OPFESS;
OPFESS;
O1-MAR-2001 (TrEMBLrel. 16, Created)
O1-MAR-2001 (TrEMBLrel. 19, Last sequence update)
O1-DEC-2001 (TrEMBLrel. 19, Last annotation update)
O1-DEC-2001 (TrEMBLrel. 19, Last annotation update)
SIMILARITY TO 40S RIBOSOMAL PROTEIN S10 (AT5G41520/MBK23_4).
Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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01-MAR-2001
01-OCT-2001
  "Arabidopsis cDNA clones.";
Submitted (MAY-2001) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; TPR000541; UPP0021.
Pfam; PF01171; UPP0021; 1.
Hypothetical protein; Complete
SEQUENCE 274 AA; 31260 MW;
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Bacteria; Proteobacteria;
                                                       Ecker J.R.;
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8; Conserv
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                                                                                                                                                                                                                                                                                                                                                                          lysis of Arabidopsis thaliana chromosome 1.6 Mb regions covered by twenty physica
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57.1%;
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; Pred. No. 6.5;
5; Mismatches
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K., Lim R.M.
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    Sequence

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Matches 8
SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN=ATCC 35092 / DSM 1617 / P2;

MEDLINE=21332296; PubMed=11427726;

She Q., Singh R.K., Confalonieri F., Zivanovic Y., Allard G.,

Awayez M.J., Chan-Welher C.C.-Y., Clausen I.G., Curtis B.A.,

De Moors A., Erauso G., Fletcher C., Gordon P.M.K.,

Heikamp-de Jong I., Jeffries A.C., Kozera C.J., Medina N., Pen

Thi-Ngoc H.P., Redder P., Schenk M.E., Theriault C., Tolstrup

Charlebois R.L., Doolittle W.F., Duguet M., Gaasterland T.,

Garrett R.A., Ragan M.A., Sensen C.W., Van der Oost J.;

""ha complete genome of the crenarchaeon Sulfolobus solfataric
                                                                                                                                                                                                Q97YH0;
01-OCT-2001
01-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                              NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; ABOO
EMBL; AYO3
EMBL; AF37
Ribosomal
SEQUENCE
                                                                                                                                                                           01-OCT-2001 (TrEMBLrel. 18, 01-OCT-2001 (TrEMBLrel. 18, 01-DEC-2001 (TrEMBLrel. 19, DERMEASE, MULTIDRUG EFFLUX.
                                                                                                                                              Sulfolobus solfataricus
Archaea; Crenarchaeota;
                                                                                                                                                                                                                                                                                                                                                                                                evolutionary implications.",
Genetics 158:811-832(2001).
EMBL, AF326517, AAK83564.1,
                                                                                                                                                                   SS01351
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Abies grandis (Grand
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01-DEC-2001
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01-DEC-2001
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AF375440; AAK53024.1;
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Best Local S
Matches 10
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PRELIMINARY; PRT; 426 AA.

C Q9HFE5;
C Q9HFE5;
T Q1-MAR-2001 (TrEMBLrel. 16, Created)
T Q1-MAR-2001 (TrEMBLrel. 17, Last sequence update)
T Q1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
E CLATHERIA-ASSOCIATED ADAPTOR MEDIUM CHAIN.
N SPBP16F5.Q7.
N SPBP16F5.Q7.
Schlzosaccharomyces pombe (Fission yeast).
Schlzosaccharomycetales; Schlzosaccharomycetes;
C Schlzosaccharomycetales; Schlzosaccharomycetee;
Schlzosaccharomyces.
SEQUENCE FROM N.A.

STRAIN-972H-;

STRAIN-972H-;

STRAIN-972H-;

Acrt R., Robben J., Volckaert G., Wood V., Rajandr.
Barrell B.G.;

Submitted (SEP-2000) to the EMBL/GenBank/DDBJ data
EMBL; AL441603; CAC08546.1; -

InterPro; IPR001392; Adap_comp_sub.

Pfam; PP00938; Adap_comp_sub; 1.

Pfam; PP00938; Adap_comp_sub; 1.

PRINTS; PR00314; CLATHRINADPT.

PROSITE; PS00990; CLAT_ADAPTOR_M_1; 1.

SEQUENCE 426 AA; 48955 MW; 911FEB137C63AED3 CR
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SEQUENCE
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STRAIN-D DSM 180;
OTHAIN-D DSM 180;
POTC-Sperling A.S., Dahl C.;
Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases
EMBL. U84760; AAC13085.1;
SEQUENCE 416 AA; 45664 MW; B0E954FFEC71DC21 CRC64;
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Q9KCE3;
01-OCT-2000
01-OCT-2000
01-DEC-2001
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022715;
01-JAN-1998
01-JAN-1998
01-DEC-2001
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EMBL; AP001512; BAB05347:1; ".
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STRAIN-C-125 / JCM 9153;
MEDLINE-20512582; PubMed=11058132;
MEDLINE-20512582; PubMed=11058132;
Medium-1 Nakasone K., Takaki Y., Maeno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro: IPR000277; Cys_Met_Meta_PP.
InterPro: IPR002026; Urease_gamma.
Pfam; PF01053; Cys_Met_Meta_PP; 1.
PR0517E; P500868; CYS_MET_METAB_PP; 1.
Lyase; Complete proteome.
Lyase; Complete proteome.
SEQUENCE 390 AA; 42918 MW; 73EACD4
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METC OR BH1628.
SEQUENCE FROM N.A. Palm C.J., Conway A.B., Kurtz D.B., Conwerederspiel N.A., Palm C.J., Conway A.B., Kurtz D.B., Conwerederspiel N.A., Brendel V., Buehler E., Dewar K., Feng Au M., Araujo R., Brendel V., Shinn P., Sun H., Toriumi M. Li Y., Oji O., Osborne B.I., Shinn P., Sun H., Toriumi M. Yysotskaia V.S., Yu G., Ecker J., Theologis A., Davis R.
                                                                                                                                                                                                                                                                             Arabidopsis thaliana (Mouse-ear cress).

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnollophyta; eudicotyledons; core eudicots; Rosidae;

eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                  PUTATIVE CLATHRIN F8A5.29.
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Bacillus/Clostridium group;
Bacillus/Staphylococcus group; Bacillus.
RCH_TaxID-86665;
                                                                                                                                                                                                                                                 NCBI_TaxID=3702;
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(TremBLrel. 05, Last sequence update)
(TremBLrel. 19, Last annotation updat
ATHRIN COAT ASSEMBLY PROTEIN.
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Pred. No. 22;
3; Mismatches
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### Substitics (CCT-1997) to the EMBL/CONDA databases.

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Copyright (c) 1993 - 2000 Compugen Ltd
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AAY59432	AAW97881	AAU35285	51	AAW24294	AAU37899	AAW31916	AAW44126	AAW46447	AAW06132	AAY91239	AAY91238	AAY91230	AAW06131	AAY91237	AAY91235	AAY91234	AAY91236	AAY91229	AAY02470	AAW06129	AAY13809	AAY13821	AAY13815	AAY02467	AAW46445	AAW06133	AAY02468	AAY91241	AAY91240	AAY91231	AAY13802	AAY02469	AAG65636
Wheat inositol 1,3	Maize myo-inositol	Enterococcus faeca		Human/Rabbit CETP	Streptococcus pneu	Streptococcus pneu	Streptococcus pneu	CETP B cell epitop	eryl	Modified MVF Th ep	HVF Th	olest	Anti-cholesteryl e		MVF Th	MVF Th	Modified HBVsurfac	Human cholesteryl	Fusion of a tetanu	Anti-cholesteryl e	Rabbit CETP immuno	CETP				holeste	Modified rabbit ch	MVF Th	Modified MVF Th ep	cholest	Rabbit CETP immuno	Humanised rabbit c	Human cholesterol

## ALIGNMENTS

RESULT AAW06128 ID AAW0

AAW06128 standard; Peptide;

26 Ą

Human cholesteryl ester transfer protein C-terminal B-cell epitope.

07-FEB-1997

(first entry)

AAW06128;

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AC NAME OF STREET STREE
                                                                                             Cholesteryl ester transfer protein B cell epitope linked to T cell epitope - used to generate vaccine to regulate CETP activity for decreasing the risk of developing a cardiovascular disease e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cholesteryl ester transfer protein; CETP; antigen; vaccine; cardiovascular disease; atherosclerosis; B-cell epitope.
                                                                                                                                                                                                                                                                                                                                                                                                                         Rittershaus CW,
                                                                                                                                                                                                                                                                                                                      WPI; 1996-506103/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-NOV-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TCEL-) T CELL SCI INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9505-0432483
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atherosclerosis

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Best Loc
Matches
encoding CETP, which can be used for producing antibodies to lessen the transfer of cholesteryl esters from high density lipoprotein (HDL). The method can provide an autogenic immunological process for lessening the transfer of cholesteryl esters from HDL particles and for increasing the HDL cholesterol concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/LDL cholesterol ratios method can have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of human liver mature cholesteryl ester transfer protein (CETP) (see also AAW06127) is involved in a neutral lipid binding or a transfer activity of CETP. It can be linked to a universal or proad range immunogenic T-cell epitope, such as that found at amino acids 830-843 of tetanus toxoid protein, to produce a synthetic vaccine (see also AAW06129) that elicits an immune response against endogenous CETP activity, thereby treating or preventing cardiovascular disease, such as atherosclerosis. It may also be incorporated into a multivalent vaccine (see also AAW06131) including another CETP B-cell epitope.
                                                                                                                             cholesteryl ester transferase protein (CETP).
The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibodies to lesse
                                                                                                                                                                                                                  Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antibody production; cholesteryl ester transfer; therapy high density lipoprotein; NDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
                                                                                                                                                                                                                                                                                                               Glenn
                                                                                                                                                                                                                                                                                                                                                                                                          17-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Oryctolagus sp.
                                                                                                                                                                                                                                               New recombinant DNA vaccines
                                                                                                                                                                                                                                                                                                                                              SNOM)
                                                                                                                                                                                                                                                                                                                                                                           19-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                           01-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO9915655-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CETP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY13801;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY13801 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A B-cell epitope (AAW06128) comprising the C-terminal 26 amino of human liver mature cholesteryl ester transfer protein (CETP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N
                                                                                                                                                                               sequence represents an immunogenic fragment of the rabbit
                                                                                                                                                                                                                                                                                1999-276984/23
                                                                                                                                                                                                                  15;
                                                                                                                                                                                                                                                                                                                                              ) MONSANTO CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cholesteryl-ester transfer protein; recombinant DNA vaccine; HDL; ody production; cholesteryl ester transfer; therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                              Page 85; 99pp; English.
                                                                                                                                                                                                                                                                                                               Needleman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 immunogenic fragment
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                          97US-0934367
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 134; DB 17;
Pred. No. 1.2e-13;
; Mismatches 0;
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AAY91228
ID AAY
        CC The invention relates to novel promiscuous T helper cell epitopes (Th), CC and immunogenic peptides comprising the Th epitopes of the invention CC along with B cell epitopes. The Th epitopes and peptide immunogens CC specifically against plasmodium falciparum, cholesteryl ester transport CC protein (CETP) or HIV epitopes, but more generally against any pathogen, communoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of CC immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer CC immunotherapy; for inhibition of the action of luteinising hormone CC releasing hormone (LHRH) for contraception, treatment of hormone-CC dependent cancer, prevention of boar thint in meat, and immunocastration; for promoting the growth of animals; or for treating allergies or arterioscierosis. Incorporation of a promiscuous CC impunocastration; for promoting the growth of animals; or for treating allergies or arterioscierosis. Incorporation of a promiscuous CC impunocastration in genetically diverse subjects) into an immunogen the proves capacity to induce a strong T helper cell-mediated immune crespitopes. Sequence Any91121 represents a promiscuous T helper epitope correct the meatles wirms F (MVF) profess and sequences anyolicated T helper epitopes. Sequence Any91121 represents a promiscuous T helper epitope.
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                         Claim 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               antigenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2000-160564/14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; lutcinising hormone releasing hormone; LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgB; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CETP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UNBI-) UNITED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cholesteryl ester transport protein; anti-arteriosclerotic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9966957-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human cholesteryl transport protein (CETP) peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY91228 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 RDGFLLLQMDFGFPEHLLVDFLQSLS
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                                                                                                                                                                                                                                                                                                                                                                                                                                           immune deficiency virus
                                                                                                                                                                                                                                                                                                                                                                                                     Page 49; 129pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T-cell epitope; measles virus F protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BIOMEDICAL INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
a promiscuous
and sequences
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO:106
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B-cell epitope;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26;
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CC infection of T cells. ANY90212 is a modified version of a human IgE
CC (immunoglobulin E) CH3 domain, and ANY90213-Y90219 are Th epitope/IgE CH3
CC (ANY91220 peptides which may be used in the treatment of allergies.
CC ANY91220 is a peptide derived from foot and mouth disease virus (FMDV)
CC VP1 capsid protein and ANY91221-Y91222 comprise this peptide and a Th
CC epitope. ANY91223 is a plasmodium falciparum clircumsporozoite (CS) target
CC antigen, and ANY91224-Y91225 comprise the CS antigen and an MVF Th
CC epitope. ANY91223 is a plasmodium falciparum clircumsporozoite (CS) target
CC entigen, and ANY91224-Y91225 comprise the CS antigen and an MVF Th
CC epitope and may be used in a malaria vaccine. ANY9128-Y91231 represent
CC ETP-derived peptides and ANY9123-Y91241 are immunogenis comprising a
CC CTP peptide and a Th epitope which may be used to prevent or treat
CC arter HYV-1 neutralising B-cell epitopes, and ANY91247 and ANY9125-Y91257
CC are HYV-1 neutralising B-cell epitopes, and ANY91248-Y91251 and B-cell
CC ANY91258-Y91273 are antigenic peptides comprising MVH Th and HIV-1 B-cell
CC epitope which may be used as a component in an anti-HIV-1 vaccine.
CC ANY9128 and ANY91199 are respectively an immunostimulatory invasin
CC which may optionally be used in the antigenic peptides of the invention.
CC Which may optionally be used in the antigenic peptides of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              peptides. AAY91200 is somatostatin, and AAY91201-Y91207 are antigenic peptides comprising somatostatin and a Th epitope. Somatostatin impunogens may be used to promote growth in livestock. AAY91208 is a human CD4 CDR2-like domain antigenic site, and AAY91209-Y90211 are MVH Th
                                                                                                                                                                                                            Chimeric -
                                                                                                                                                                                                                                                                                                       hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; lutelnising hormone releasing hormone; LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; plasmodium falciparum; circumsporozoite; antimalarial; CETP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified MVF Th epitope/CETP peptide, SEQ ID NO:110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY91232;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY91232 standard; peptide; 46
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                                                                                                                                                                W09966957-A2
                                                                                                                                                                                                                                                                                  cholesteryl ester
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                       20-JUN-1998;
                                                                   21-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
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                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                         Measles virus
                                                                                                                                                                                                                                                                                                                                                                                                                              T-cell epitope; measles virus F protein; MVF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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                       98US-0100412
                                                                     99WO-US13975
                                                                                                                                                                                                                                                                                     transport
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 134; DB 21; 100.0%; Pred. No. 1.2e-13; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                  protein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26;
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2000-160564/14
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(UNBI-) UNITED BIOMEDICAL INC

or human immune New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis immune deficiency virus

Claim 11; Page 104; 129pp; English.

CC antigen. The can replace carrier proteins and pathogen entered to perfore the measles virus F (MVF) protein and sequences Any91127-Y91142.

CC AAY9126 and AAY91245-Y91246 represent synthetic Thepitopes based on the measles virus F (MVF) protein and sequences Any91127-Y91142.

CC AAY9126 and AAY91245-Y91246 represent synthetic Thepitopes based on the CMF Thepitopes. Sequence AAY91143 represents a promiscuous Thepitope compressing sequence (HBV) surface antigen, and sequences of the LRH target antigenic peptide used in these LHRH antigenic peptides. CC comprising an LHRH sequence joined to a promiscuous Thepitope. AAY91197-Y9120 is somatostatin, and AAY91201-Y91207 are antigenic peptides comprising somatostatin, and AAY91201-Y91207 are antigenic comprising somatostatin, and AAY91201-Y91207 are antigenic comprising somatostatin and a Thepitope. Somatostatin and comprising somatostatin and a Thepitope. Somatostatin and comprising somatostatin and the pitope. Somatostatin and comprising the performance of the performance of the promise the prometer this comprise the comprise the prometer this peptides which may be used to prevent this comprise the comprise this peptide and a Thepitope. AAY91201-Y91220 is a peptide derived from foot and mouth disease virus (FMDV) comprise and AAY91221-Y91221 and AAY91228-Y91231 and AAY91228-Y91231 and AAY9123-Y91231 and AAY9123-Y9123-Y91231 and AAY9123-Y9 The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against plasmodium falciparum, cholesteryl ester transport specifically against plasmodium falciparum, cholesteryl ester transport infections (HIV, foot-and-mouth disease or malaria); for cancer immunotherapy; for inhibition of the action of luteinising hormone releasing hormone (LHRH) for contraception, treatment of hormone-dependent cancer, prevention of boar taint in meat, and immunocastration); for promoting the growth of animals; or for immunocastration); for promoting the growth of animals; or for protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of Th (functional in genetically diverse subjects) into an immunogen improves capacity to induce a strong T helper cell-mediated immune response, resulting in production of antibodies against a target treating allergies or arteriosclerosis. Incorporation of a promiscuous hormone

В

21

1 RDGFLLLOMDFGFPEHLLVDFLQSLS 26

rdgflllqmdfgfpehllvdflqsls

Matches Query Match Best Local

Similarity

100 .03 0

Pred. No. Mismatches

2.3e-13; 0

Length

46;

0 Gaps

0

Conservative

Sequence

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The invention relates to novel promiscuous T helper cell epitopes (Th), CC and immunogenic paptides comprising the Th epitopes of the invention CC along with B cell epitopes. The The pitopes and peptide immunogens CC containing them, are used to induce a T helper cell response, specifically against plasmodium falciparum, cholesteryl ester transport CC protein (CETP) or HIV epitopes, but more generally against any pathogen, communoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive for inhibition of the action of luteinising hormone (CHRH) for contraception, treatment of hormone CC dependent cancer, prevention of boar taint in meat, and contractive and promoted the growth of animals; or for treating allergies or arteriosclerosis. Incorporation of a promiscuous Theoremson of the contractive of antipoles against a target CC improves capacity to induce a strong T helper cell-mediated immune CC response, resulting in production of antibodies against a target CC antigen. Th can replace carrier proteins and pathogen-derived T helper CC antigen. The ana replace carrier proteins and sequences ANY91122-Y91142, CC ANY9125 and ANY9145-Y91246 represents a promiscuous T helper epitope based on the CC from the measies virus (HBV) surface antigen, and sequences CC ANY91144-Y91153 are synthetic epitopes derived from this HBV epitopes.
AAY91144-Y91155 are synthetic epitopes derived from this HBV epitope. AAY91156-Y91196, AAY91227 and AAY91242-Y91244 are antigenic peptides comprising an LHRH sequence joined to a promiscuous Th epitope. AAY91197 is the LHRH target antigenic peptide used in these LHRH antigenic peptides. AAY91200 is somatostatin, and AAY91201-Y91207 are antigenic peptides comprising somatostatin and a Th epitope. Somatostatin immunogens may be used to promote growth in livestock. AAY91208 is a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 11; Page 104-105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or human immune deficiency virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2000-160564/14
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Chimeric -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              somatostatin, growth promotion; CD4 receptor; HIV-1; antiviral; FWD foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CETP; cholesteryl ester transport protein; anti-arteriosclerotic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; hepatitis B virus surface antigen; HBH; immunogenic; B-cell epitope; hepatitis B virus surface anticancer; LHRH; contraceptive; anticancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (UNBI-) UNITED
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AAW06127
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CC AAY91220 is a peptide derived from foot and mouth disease virus (FMDV)

CC VP1 capsid protein and AAY91221-Y91222 comprise this peptide and a The periode and AY91223 is a plasmodium falciparum circumsporozoite (CS) target cantigen, and AAY91224-Y91225 comprise the CS antigen and an MVF Th CC epitope and may be used in a malaxia vaccine, AAY91228-Y91231 represent CC ETFP-derived peptides and AAY91233-Y91241 are immunogens comprising a CC ETFP peptide and a The epitope which may be used to prevent or treat arterioscierosis and cardiovascular disease. AAY91227 and AAY91257-Y91257 are antigenic peptides comprising AAY91258-Y91273 are antigenic peptides comprising MVH Th and HIV-1 Becall captope which may be used as a component in an anti-HIV-1 vaccine. AAY91198 and AAY91199 are respectively an immunostimulatory invasin corotten peptide from Versinia species, and hinge spacer peptide, both of which may optionally be used in the antigenic peptides of the
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Best Local
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Cholesteryl ester transfer protein B cell epitope linked to epitope - used to generate vaccine to regulate CETP activit
                                                                                                                                      01-MAY-1995;
                                                                                                                                                                  01-MAY-1996;
                                              WPI; 1996-506103/50
                                                                           Rittershaus CW,
                                                                                                                                                                                               07-NOV-1996
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                                                                                                        (TCEL-) T CELL
                                                                                                                                                                                                                                                                                                                  Region
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                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                      cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                   Cholesteryl ester transfer
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human cholesteryl ester transfer protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-FEB-1997 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW06127;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW06127 standard; Protein; 476
                                                                                                                                                                                                                                                                                                                                               Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     epitope/CD4 CDR2 antigenic peptides which may be used to prevent HIV infection of T cells. AAY90212 is a modified version of a human IgE (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are Th epitope/IgE CH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            invention
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nes 26; Conser
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                                                                                                          SCI INC
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                                                                                                                                                                                                                                                                                                                                                                                                                      disease;
                                                                           Thomas
                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers 349..367
                                                                                                                                                                                                                                                                                    /label= B-cell_epitope
/note= "C-terminal epit
                                                                                                                                                                                                                                                                                                                  461..476
                                                                                                                                                                                                                                                                                                                               /label=
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                                                                                                                                                                                                                                                                                                                                                                                                                    fer protein; CETP; antigen; vaccine;
atherosclerosis.
                                                                                                                                                                                                                                                       "C-terminal epitope
lipid binding or a
CETP (Claim 5)"
                                                                                                                                                                                                                                                                                                                              B-cell_epitope
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Pred. No. 2.3e-13;
); Mismatches 0;
                                                                                                                                                                                                                                                                    transfer
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lnked to T
activity
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decreasing the risk of developing a cardiovascular disease e.g.

FEXEXOCOCOCOC

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Query Match
Best Local S
Matches 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cardiovascular disease. B-cell epitopes (see also AAW)6128) of CET can be used in novel peptide vaccines (see also AAW06129, AAW06131) that elicit an immune response against endogenous CETP activity,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cholesteryl ester transfer protein; CETP; cholesteryl ester; high density lipoprotein; HDL; very low density lipoprotein; low density lipoprotein; LDL; atherosclerosis; neutral lipid transfer activity; immunogenic; B cell epitope; antibody; TP2 DNA plasmid-based vaccine; broad range helper T cell epitope; troops transfer activity; management of the pitope; broad range helper T cell epitope; troops transfer activity; transfer activity; transfer activity; transfer activity; transfer activity transfer activity; transfer activity transfer activity transfer activity transfer activity transfer activity.
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01-MAY-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               thereby treating or preventing cardiovascular disease,
produces an atherogenic
A 13 amino acid eterrica
                                                                                                                                                                                                                                                                 Thomas
                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 treatment; cardiovascular disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human mature
                The present sequence represents a human mature cholesteryl ester transfer protein (CETP). CETPs mediate the transfer of cholesteryl esters from high density lipoprotein (HDL) to very low density lipoprotein (HDL) and low density lipoprotein (LDL). An increased CETP activity produces an atherogenic lipoprotein profile and induces atherosclerosis.
                                                                                                                  Claim 6;
                                                                                                                                                  epitope(s)
for treating
                                                                                                                                                                                                                                                                                                (TCEL-) T CELL
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                                                                                                                                               plasmid-based vaccine encodes CETP B cell and helper T cell tope(s) - used for elevating high density lipoprotein levels treating cardiovascular disease
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens
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DB; AAV05127.
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                                                                                                                  Pages
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  476 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cholesteryl ester transfer protein (CETP).
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96US-0640713
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                                                                                                              67pp;
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                                                                                                                English.
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Pred. No.
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profile and induces atherosclerosis n CETP (Phe463 to Leu475), and also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3e-12;
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                                                                                                                                                                    levels,
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RESULT
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the ratio of circulating HDL to circulating LDL, VLDL or total cholesterol in a human. It can also be used for decreasing the level endogenous CETP activity in a human. The vaccine can be used to produce anti-CETP antibodies in vivo and for treating cardiovascular disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vaccine; antibody; endogenous; cholesteryl ester transfer protein; CETP; high-density lipoprotein-associated cholesterol; metabolism; low-density lipoprotein-associated cholesterol; atherosclerotic lesion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                         cholesterol;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human
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                                                                                                                                                                                                                                                                                                    20-OCT-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                    Disclosure;
                                                                                                                                                                                                                                                                      (AVAN-) AVANT IMMUNOTHERAPEUTICS
                                                                                                                                                                 Vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   451 rdgflllgmdfgfpehllvdflqsls 476
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cholesteryl ester transfer protein
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                                                                                                                                                              against cholesteryl ester transfer
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                                                                                                                                                                                                                                          CW,
                                                                                                                                  Page 44-46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                         atherosclerosis;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 134;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            heart disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3e-12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (CETP).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 476;
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antibodies that bind endogenous cholesteryl ester transfer protein (CETP). The vaccines (and equivalent plasmid-based vaccines) are used to increase the ratio of circulating high-density lipoprotein (HDL)-associated cholesterol to low-density lipoprotein (LDL)-associated cholesterol to low-density lipoprotein (LDL)-associated cholesterol; to decrease the level of endogenous CETP activity in humans or other animals; to alter metabolism of LDL-associated cholesterol, for inhibiting development of atherosclerotic lesions; to lower circulating

The specification describes a vaccine that promotes the production

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RESULT
AAR60342
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                      This sequence shows a partial human lipid transfer protein, containing specific peptide groups that are antigen determining. monoclonal antibody of the invention recognises any of these peptides. The MAB can be used in an immunoassay for HLTP.
                      Sequence
                                                                                                    A monoclonal antibody recognising human lipid transfer protein useful for immunoassay
                                                                                 Disclosure; Fig 1; 14pp; Japanese
                                                                                                                                WPI; 1994-237601/29.
                                                                                                                                                                   02-DEC-1992;
                                                                                                                                                                                                                       JP06169793-A.
                                                                                                                                                                                     02-DEC-1992;
                                                                                                                                                                                                      21-JUN-1994
                                                                                                                                                                                                                                                                                                                                                                             Key
                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                      lipid transfer protein; LTP;
                                                                                                                                                 (EIKE ) EIKEN KAGAKU
                                                                                                                                                                                                                                                           Peptide
                                                                                                                                                                                                                                                                                     Peptide
                                                                                                                                                                                                                                                                                                              Peptide
                                                                                                                                                                                                                                                                                                                                         Peptide
                                                                                                                                                                                                                                                                                                                                                                   Peptide
                                                                                                                                                                                                                                                                                                                                                                                                               antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                        Partial human Lipid transfer
                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAR60342;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAR60342 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      levels of LDL and total cholesterol; and to treat or prevent atherosclerosis (or more generally heart disease). The present sequence represents human CETP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           451
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                                                                                                                                                                                                                                                                                                                                                                                                              determining
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                                                                                                                                                                                    92JP-0349842
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                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                       /label= peptide 1
/note= "claim 1; antigen determining group"
209..221
                                                                                                                                                                                                                                                                                      303
                                                                                                                                                                                                                                                                                                               /note- "claim 1; antigen determining 275..288
                                                                                                                                                                                                                                                                 /label- peptide 4
/note- "claim 1; antigen
                                                                                                                                                                                                                                                                                            /label= peptide 3
/note= "claim 1; antigen
                                                                                                                                                                                                                                                                                                                                /label-
                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers 16..43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein;
                                                                                                                                                                                                                                                                                                                                                                                                              group
                                                                                                                                                                                                                                                           .370
                                                                                                                                                                                                                                                                                      . 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                                                       "claim 1; antigen
                                                                                                                                                                                                                                                                                                                                peptide 2
                                                                                                                                                                                                                                                 peptide 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              491
                                                                                                                                                                                                                                                                                                                                                                                                                   monoclonal antibody; immunoassay;
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                                                                                                                                                                                                                                                                                                                                                                                                                                       protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 134;
Pred. No. :
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                                                                                                                                                                                                                                                                                           determining
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                                                                                                                                                                                                                                      determining group
                                                                                                                                                                                                                                                                 determining
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 476;
                                                                                                                                                                                                                                                                 group'
                                                                                                                                                                                                                                                                                           group"
                                                                                                                                                                                                                                                                                                                     group
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RESULT 1
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ID AAY4
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RESULY 1
AAX49556
AD AAX49556
AD AAX49
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Best Local S
Matches 26
                                                                                                      Matches
                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                            AAZ32159 to AAZ32194 represent reference alleles for specifically claimed nucleic acid sequences from the present invention which comprise polymorphic sites as given in a table in the specification, selected from 92 single nucleotide polymorphisms in which the nucleotide at the polymorphic site is different from a nucleotide at the same site in a reference allele. The nucleic acids, and primers and probes, are used to identify polymorphisms, which may predispose an individual to disease, especially a vascular disease. They can also be used in phenotype correlations, forensics, paternity testing, medicine or genetic analysis. AAY49550 to AAY49573 represent the proteins which correspond
                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Determination of polymorphisms in genes, especially those identifying predisposition to vascular disease \, -
                                                                                                                                                                                                                                                                                       to some
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1999-620066/53.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-MAR-1999;
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medicine; genetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; coding sequence polymorphism: vascular pathology gene; polymorphic site; phenotype correlation; forensic; paternity testing;
     468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human cholesteryl ester
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY49556 standard;
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                                                 RDGFLLLQMDFGFPEHLLVDFLQSLS
                                                                                                         . Similarity
26; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ES,
                                                                                                                                                                                                                                                                                 of the reference alleles.
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                                                                                                                                                                                                                                  493
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                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Daley GQ,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                  AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     phenotype correlation; forensic; analysis; vascular disease.
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                                                                                              Score 134; DB 20;
Pred. No. 3.2e-12;
; Mismatches 0;
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Pred. No. 3.1e-12;
; Mismatches 0;
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AAY49568 standard;

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Best Local S
Matches 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; coding sequence polymorphism; vascular pathology gene; polymorphic site; phenotype correlation; forensic; paternity testing; medicine; genetic analysis; vascular disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAZ32159 to AAZ32194 represent reference alleles for specifically claimed nucleic acid sequences from the present invention which compolymorphic sites as given in a table in the specification, selected
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               predisposition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human cholesteryl ester transfer protein sequence
 Key
Peptide
                                                                                                                                     07-JAN-2002
                                                                                                                                                               AAG65636;
                                                                                                                                                                                        AAG65636 standard;
                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                          to some of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Determination of polymorphisms in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lander
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (WHED ) WHITEHEAD INST
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                                                                                                                                                                                                                                                                                    1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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DB; AAZ3218B.
                                        sapiens
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                                                                  density
                                                                                 arteriosclerosis; cholesterol
                                                                                                           cholesterol
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26; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                          the reference alleles.
                                                                                                                                                                                                                                                                                                                                                                               493
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 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 vascular disease
                                                                                                           ester transfer
                                                                                                                                                                                        Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    134pp; English.
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                                                                                                                                                                                                                                                                                                            0.0%;
                                                                                                                                                                                          493
                                                                                                                                                                                                                                                                                                                          Score 134;
Pred. No.
                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           genes,
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                                                                                 ester transfer
                                                                                                                                                                                                                                                                                                            4; DB 20;
. 3.2e-12;
ches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            especially those
                                                                                                           (CETP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JS,
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                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                              Indels
                                                                               protein; HDL;
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                                                                                                                                                                                                                                                                                                                                       493;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           identifying
                                                                                                                                                                                                                                                                                                              0;
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AAY02469
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                       in a subject that involves detecting mutations in the gene for cholesterol ester transfer protein (CETP) related to the degree of arteriosclerosis. The mutant proteins alter the Level of HDL in blood. The high frequency mutations can be detected for prevention treatment of arteriosclerosis. The present sequence represents a
                                                                                                                                       high-density lipoprotein-associated cholesterol; metabolism; low-density lipoprotein-associated cholesterol; atherosclerotic lesion; cholesterol; atherosclerosis; heart disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to detecting the risk factor for arteriosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mutations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Determining a risk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB;
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                                                                                                         Synthetic.
Oryctolagus
                                                                                                                                                                                                                                                  AAY02469 standard;
                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                               human CETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-611516/70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matsuzawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (BMLB-) BML
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-SEP-2001.
       (AVAN-) AVANT
                            20-OCT-1997;
                                               20-OCT-1998;
                                                                    29-APR-1999
                                                                                       WO9920302-A1
                                                                                                                                                                    Vaccine; antibody; endogenous; cholesteryl ester transfer protein; CETP;
                                                                                                                                                                                        Humanised rabbit cholesteryl ester transfer protein
                                                                                                                                                                                                            14-JUL-1999
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                                                                                                                                                                                                                                                                                                     468
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                                                                                                                                                                                                                                                                                                              1 RDGFLLLQMDFGFPEHLLVDFLQSLS
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        IMMUNOTHERAPEUTICS INC
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                            97US-0954643
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18..493
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor for arterlosclerosis comprises for cholesterol ester transfer protein
                                                                                                                                                                                                                                                 protein; 496
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                                                                                                                                                                                                            entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Japanese
                                                                                                                                                                                                                                                                                                                                                    Score 134;
Pred. No. 3.
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g 0;
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                                                                                                                                                                                         (CETP)
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RESULT
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Best Local
cholesteryl ester transferase protein (CETP). The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibodies to lessen transfer of cholesteryl esters from high density lipoprotein (HDL). method can provide an autogenic immunological process for lessening
                                                                  This sequence represents an immunogenic fragment
                                                                                                                                                                                                                         19-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The specification describes a vaccine that promotes the production of antibodies that bind endogenous cholesteryl ester transfer protein (CETP). The vaccines (and equivalent plasmid-based vaccines) are used to increase the ratio of circulating high-density lipoprotein (HDL)-associated cholesterol to low-density lipoprotein (LDL)-associated cholesterol; to decrease the level of endogenous CETP activity in humans or other animals; to alter metabolism of LDL-associated cholesterol, for
                                                                                             Claim
                                                                                                                     New recombinant DNA vaccines
                                                                                                                                                                        Glenn
                                                                                                                                                                                                 SNOM)
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                                                                                                                                                                                                                                                                                                                            Oryctolagus sp
                                                                                                                                                                                                                                                                                                                                                       pro-atherogenic
                                                                                                                                                                                                                                                                                                                                                                  antibody production;
high density lipopro
                                                                                                                                                                                                                                                                                                                                                                                                                     Rabbit CETP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY13802 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           inhibiting development of atherosclerotic lesions; to lower circulating levels of LDL and total cholesterol; and to treat or prevent atherosclerosis (or more generally heart disease). The present sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vaccine
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    represents a humanised rabbit CETP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 DGFLLLQMDFGFPEHLLVDFLQSLS
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                                                                                                                                               1999-276984/23
                                                                                                                                                                                                ) MONSANTO CO
                                                                                                                                                                                                                                                                                                                                                                          cholesteryl ester transfer protein; recombinant DNA vaccine; ody production; cholesteryl ester transfer; therapy;
                                                                                             15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                against cholesteryl ester transfer
                                                                                                                                                                       Needleman
                                                                                          Page 94; 99pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            496
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                                                                                                                                                                                                                                                                                                                                                                                                                   immunogenic fragment
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                                                                                                                                                                                                                                                                                                                                                                lipoprotein; HDL cholesterol concentration;
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Best Local
                                                                                                       The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against Plasmodium falciparum, cholesteryl ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and
             dependent cancer, prevention of boar taint in meat, and immunocastration); for promoting the growth of animals;
                                      peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer immunotherapy; for inhibition of the action of lutelnising hormone (LHRH) for contraception, treatment of hormone-releasing hormone (LHRH) for contraception,
                                                                                                                                                                                                                                         Claim 10;
                                                                                                                                                                                                                                                                   New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis or human immune deficiency virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     transfer of cholesteryl esters from HDL particles and for increasing t HDL cholesterol concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/LDL cholesterol ratios. method can have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.
                                                                                                                                                                                                                                                                                                                                       HPI;
                                                                                                                                                                                                                                                                                                                                                                      Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CETP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY91231;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HOMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cholesteryl ester transport protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY91231 standard;
                                                                                                                                                                                                                                                                                                                                                                                                    (UNBI-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hepatitis B virus surface antigen; HBV; immunogenic; B-cell luteinising hormone releasing hormone; LHRH; contraceptive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human cholesteryl transport protein (CETP) peptide,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       T-cell epitope; measles virus F protein;
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                                                                                                                                                                                                                                      62; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                    BIOMEDICAL INC
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for promoting the growth of animals; or arteriosclerosis. Incorporation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                peptide;
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No. 4.
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.8e-11;
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             or
               tor
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promiscuous

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CC from hepatitis B virus (HBV) surface antigen, and sequences of from hepatitis B virus (HBV) surface antigen, and sequences comprising an ilfilia sequence joined to a promissouous the pitope. AAV91156-Y91196, AAV91272 and AAV91242-Y91244 are antigenic peptides comprising an ilfilia sequence joined to a promissouous the pitope. AAV91197 is the LHRH target antigenic peptide used in these LHRH antigenic peptides. AAV91200 is somatostatin, and AAV91201-Y91207 are antigenic comprising somatostatin, and AAV91201-Y91207 are antigenic comprising somatostatin, and AAV91201-Y91207 are antigenic comprising somatostatin and a Th epitope. Somatostatin and the pitope. Somatostatin and the pitope for the pitope. Somatostatin and patience peptides which may be used for provent HIV continuoglobulin E) CH3 domain antigenic spetide version of a human IgE continuoglobulin E) CH3 domain, and AAV90213-Y90219 are Th epitope/IgE CH3 antigenic peptides which may be used from foot and mouth disease virus (FMDV) continuoglobulin E) CH3 domain, and AAV90213-Y90219 are The pitope/IgE CH3 antigenic peptides and AAV91221-Y91222 comprise this piptide and a Th epitope from foot and mouth disease virus (FMDV) continuoglobulin E) CH3 domain, and AAV90213-Y90219 are this piptide and a Th epitope and may be used in a malaria vaccine. AAV91228-Y91231 represent continuogens comprising a continuogens comprising and continuogens comprising and continuogens control and continuogens comprising and continuogens comprising and continuogens control surface continuogens comprising and continuogens control surface continuogens comprising and continuogens control surface continuogens control surface continuogens control continuogens control continuogens control continuogens control continuogens control continuogens control co
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Sequence 26 AA

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                                   Query Match
Best Local S
Matches 23
Similarity
                                   Conservative
                                          87.3%; Score 117; DB 21; Length 26; 92.0%; Pred. No. 4.8e-11;
                                  1; Mismatches
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Search completed: June 18, 2002, 08:08:27 Job time: 156 sec

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Minimum
Maximum
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Listing first 45 s
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
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                J & U & U W F
                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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                                                                                                                                                                                                                 Score
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length: 2000000000
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//cgn2_6/ptcodata/2/paa/US06_COMB.pep:*
//cgn2_6/ptcodata/2/paa/US08_COMB.pep:*
//cgn2_6/ptcodata/2/paa/US09_COMB.pep:*

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Copyright (c) 1993 - 2000 Compugen
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1 US-08-785-997-29
11 US-08-786-882-29
3 US-08-945-289-1
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Sequence 1, Appli
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Sequence 29, Appl
Sequence 29, Appl
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Sequence 6, Appl.1 Sequence 109, App Sequence 50, Appl Sequence 50, Appl Sequence 50, Appl Sequence 50, Appl	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1111 114 114 114 114 114 114 114	1111122

# ALIGNMENTS

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PCT-US99-13975B-106

Sequence 106, Application PC/TUS9913975B

GENERAL INFORMATION:
APPLICANT: UNITED BIOMEDICAL INC., ET AL.
TITLE OF INVENTION: ARTIFICIAL THELPER CELL
TITLE OF INVENTION: ARTIFICIAL THELPER CELL
TITLE OF INVENTION: PEPTIDE IMMUNGENS
NUMBER OF SEQUENCES: 151

CORRESPONDENCE ADDRESS:
ADDRESSE: MOTGAN & Finnegan, L.L.P.
STREET: 345 PARK AVenue
CITY: New York
STATE: NY
COUNTRY: USA
ZIP: 10154-0054
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER IBM PC compatible
OPERATING SYSTEM: PC Windows
SOFTWARE: Word 97
CURRENT APPLICATION NUMBER: PC WINDOWS
APPLICATION NUMBER: PC WINDOWS
LASSIFICATION NUMBER: 09/100,412
APPLICATION NUMBER: 09/100,412
FILING DATE: 21-JUNE-1998
ATPORNEY/AGENT INFORMATION:
NAME: Maria H. Lin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,237
REFERENCE/DOCKET NUMBER: 95,1
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 26 aming acids
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ZIP: 60606-7407
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
ACMEDIUM TYPE: Floppy disk
ACMEDIUM TYPE: PC-DOS/MS-DOS
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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REFERENCE/DOCKET NUMBER: 11:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-759-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC COMPATIB
OPERATING SYSTEM: PC-DOS/
SOFTWARE: WordPerfect 6.1
CURRENT APPLICATION DATA:
                                                                                                                                 PUBLICATION INFORMATION:
AUTHORS: Drayna, Dennis, et al.
TITLE: Cloning and sequencing of human
TITLE: cholesteryl ester transfer cDNA
TOTALLY: CONTROLLY CONTROLLY
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TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
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HYPOTHETICAL:
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                                                                                                                                                                                                                                                                                                                            NAME/KEY:
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CITY: Chicago
                                   ISSUE:
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PAGES:
                                                                                                     JOURNAL:
                                                                                                                                                                                                                                                                                             LOCATION:
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                                                                              VOLUME:
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632-634
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Ten South Wacker Drive
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thes 0;
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; RELEVANT RESIDUES IN SEQ ID NO: 1:FROM 1 TO US-08-432-483A-1
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GENERAL INFORMATION:
APPLICANT: Rittershaus, Charles W.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 1-May-19
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                       LOCATION: PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM
                                                                                                                                                                                                                   FEATURE:
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                                                                                                                                                                                                                                                  HYPOTHETICAL:
                                                                                                                                                                                                                                                               MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
                                             ISSUE:
PAGES:
                                                                                                      AUTHORS: Drayna, Dennis, et al.
TITLE: Cloning and sequencing of human
TITLE: cholesteryl ester transfer cDNA
                                                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                         NAME: Leon R. Yankwich REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/OFFILING DATE: 1-May-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS SOFTWARE: WordPerfect 6.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE:
COMPUTER: I
                               DATE: 18-JUN-1987
                                                                             VOLUME:
                                                                                          JOURNAL:
                                                                                                                                                                                       NAME/KEY:
                                                                                                                                                                                                   NAME/KEY: Carboxyl terminal 26 amino acids
                                                                                                                                                                                                                                                                                                           LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
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RELEVANT RESIDUES IN SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
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                                                                                                                                                                                                                                                                                             amino acid
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                                             632-634
                                                                             : Nature
327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E: Banner & Witcoff, Ltd.
Ten South Wacker Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        USA
                                                                                                                                                                                       human CETP
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                                                                                                                                                                                                                                                            peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          diskette
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Pred. No. 1.5e-12;
Mismatches 0;
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Query Match Best Local Similarity

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Score 134; DB 8; Pred. No. 1.5e-12; Mismatches 0;

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US-08-785-997-29
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; GENERAL INFORMATION:
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US-08-788-882-29
Sequence 29, Application US/08788882
GENERAL INFORMATION:
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; DATE: 1989
US-08-785-997-29
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Best Local Similarity
Matches 26; Conserv
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NAME: GAMBON Ph.D., Edward P.
REGISTRATION UNUBER: 29,381
REFERENCE/DOCKET NUMBER: MON-101.0 6018/68346
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 29:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
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APPLICANT: Glenn, Kevin
TITLE OF INVENTION: An Immunological Process for Increasing
TITLE OF INVENTION: the HDL Cholesterol Concentration
                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: peptide PUBLICATION INFORMATION: Swenson, T. L.
                         APPLICANT:
                                                       APPLICANT:
                                                                      APPLICANT:
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OPERATING SYSTEM: PC-DOS/MS-DOS
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CITY: Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
STRANDEDNESS: sir
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                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS:
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          INVENTION:
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J. Biol. Chem
264
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                                       Needleman, Philip
Glenn, Kevin
Krul, Elaine
                                                                                                                                                                                                                                               Conservative
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Edward P.
An Immunological Process and Constructs
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Pred. No. 1.5e-12;
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; PAGES: 14318-14326
; DATE: 1989
US-08-788-882-29.
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INFORMATION FOR SEQ ID NO:
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ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: peptide PUBLICATION INFORMATION:
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LENGTH: 26 amino acids
TYPE: amino acid
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MEDIUM TYPE: Floppy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
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                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Needleman, Philip APPLICANT: Glenn, Kevin TITLE OF INVENTION: For IncreTITLE OF INVENTION: Vaccination of Invention: Vaccination of Invention: Vaccination of Invention of Inven
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                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
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                                                                                                                                                                                                                                                     STREET: 120 SC
CITY: Chicago
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les 26; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS: Swenson, T. L.
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                                                                                                                                                                 ZIP: 60606
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                                                                                                                                                                                                                                   STATE:
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                                                                                                                                                                                                                                                                                             120 South Riverside Plaza, 22nd Floor
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J. Biol. Chem.
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PatentIn Release #1.0,
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Version #1.30
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; VOLUME: 264
; PAGES: 14310
; DATE: 1989
US-08-934-367-29
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                              REFERENCE/DOCKET NUMBER: INFORMATION FOR SEQ ID NO: 1:
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INFORMATION FOR SEQ ID NO: 29:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                              MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: Windows 95
SOFTWARE: Word 97
CURRENT APPLICATION DATA:
                SEQUENCE CHARACTERISTICS:
                                                             FILING DATE: May 1,1995
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,237
                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: Yankwich & Associates
                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Rittershaus, Charles, W.
APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) ACTIVIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE,DOCKET NUMBER: MON-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
                                                                                                                                                                                                                                                                                                                                                    STREET: L. Cambridge
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                                                                                                                                                                 APPLICATION NUMBER: US/08/945,289
FILING DATE: October 17, 1997
CLASSIFICATION: 514
 LENGTH:
                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                   COUNTRY:
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264
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26 amino acids
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100.0%; Pred. No. 1.5e-12;
vative 0; Mismatches 0;
                                                                                                                                08/432,483
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                                                TCS-411.1P US
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Best Local Similarity
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                                                                                                                                                                  TELEFAX: (312)655-150 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
                                                   PUBLICATION INFORMATION:
                                                                   MOLECULE TYPE:
                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
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TITLE OF INVENTION:
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ANTI-SENSE:
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                                                                                                                                                                                                                            NAME: Gamson Ph.D., Edward P. REGISTRATION NUMBER: 29,381 REFERENCE/DOCKET NUMBER: MON-
                                                                                                                                                                                                                                                                                             FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                             MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 120 Sc
CITY: Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Welsh & Mark, Luc.
STREET: 120 South Riverside Plaza, 22nd Floor
                                   AUTHORS:
                                                                                  TOPOLOGY:
                                                                                                 STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ISSUE: PAGES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
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DATE: 18-JUN-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS: Drayna, Dennis, et al.
TITLE: Cloning and sequencing of human cholesteryl ester transfer cDNA
JOURNAL: Nature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RELEVANT RESIDUES IN SEQ ID NO:
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et al.,
J. Biol. Chem
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                               Swenson, T. L.
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                                                                                 linear
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52
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US-09-387-340-29
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                                                       Query Match
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Matches 26
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Best Local :
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                                                                                                                                                                                                                                                                                                                                           TELEFAX: (312)655-150 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Gamson, Edward P.
                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
TELEPAX: (312)655-1501
                                                                                                                                                                                                         PUBLICATION INFORMATION:
AUTHORS: Swenson, T. L.
AUTHORS: et al.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Krul, Elaine
APPLICANT: Gamson, Edward P.
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
NUMBER OF SEQUENCES: 50
                                                                                                                                                                                                                                                      TOPOLOGY: 1
MOLECULE TYPE:
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ADDRESSEE: Welsh & Katz, Ltd.
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PAGES: 1431
DATE: 1989
                                                                                                                                                                                         JOURNAL:
                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Gamson, Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MC
                                                                                                                                                                            VOLUME:
                                                                                                                                                                                                                                                                                 STRANDEDNESS:
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OPERATING SYSTEM: PC-DOS/MS-DOS
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                        RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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                                                                    Similarity
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3: J. Biol. Chem.

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linear
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llarity 100.0%;
Conservative 0;
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                                                    Score 134; DB 17;
Pred. No. 1.5e-12;
; Mismatches 0;
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Query Match
Best Local Similarity
Thes 26; Conserve
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US-09-701-588-106
                                                                                                                                                                                                                                                                                                              Sequence 1, Application US/09943334 GENERAL INFORMATION:
                                                                        APPLICANT: Rittershaus, Charles W.
APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVI
FILE REFERENCE: TCS-411.1P US-1: TCS-411.1P US-2
CURRENT APPLICATION NUMBER: US/09/943,334
CURRENT FILLING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR PILING DATE: 1995-05-01
PRIOR APPLICATION NUMBER: PCT/US95/06147
PRIOR PILING DATE: 1995-05-01
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                   PRIOR APPLICATION NUMBER: 08/945,289
PRIOR FILING DATE: 1997-10-17
NUMBER OF SEQ ID NOS: 9
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SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                            1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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REFERENCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
TELEPAX: 212-751-6849
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CORRESPONDENCE ADDRESSE: Morgan & Finnegan, L.L.P.
STREET: 345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: peptide SEQUENCE DESCRIPTION: SEQ ID NO: 106
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NAME: Maria H. Lin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: WORD 97
CURRENT APPLICATION DATA:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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    PatentIn
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 09/100,414 FILING DATE: 20-JUNE-1998
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version 3.1
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, OTHER INFORMATION: C - terminal 26 amino acids of Human CETP US-09-943-334-1
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LENGTH: 26
                                                                                                                                                                                                                                                                                               Sequence 110, Application PC/TUS9913975B GENERAL INFORMATION:
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LENGTH: 26
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Best Local Similarity
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TITLE OF INVENTION: MODULATION OF CHOLESTERVL ESTER TRANSFER PROTEIN (CETP) ACTIVITY
FILE REFERENCE: TGS-411.1P US-1; TGS-411.1P US-2
FILE REFERENCE: TGS-411.1P US-1; TGS-411.1P US-2
FURRENT APPLICATION NUMBER: US/99/943,548
FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR FILING DATE: 1995-05-01
PRIOR FILING DATE: 1995-05-01
PRIOR FILING DATE: 1995-05-01
PRIOR FILING DATE: 1996-05-01
PRIOR FILING DATE: 1996-05-01
PRIOR FILING DATE: 1996-05-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 08/945,289
PRIOR FILING DATE: 1997-10-17
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Rittershaus, Charles W. APPLICANT: Thomas, Lawrence J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Artificial Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                      APPLICANT: UNITED BIOMEDICAL INC., ET AL.
TITLE OF INVENTION: ARTIFICIAL THELPER CELL
TITLE OF INVENTION: EPITOPES AS IMMUNE STIMULATORS FOR SYNTHETIC
TITLE OF INVENTION: PEPTIDE IMMUNOGENS
                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                        STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                              COUNTRY: USA
ZIP: 10154-0054
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                                                                                                                        New York
                                                                                                                                           345 Park Avenue
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Pred. No. 1.5e-1
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Pred. No. 1.5e-12;
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Best Local
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INFORMATION FOR SEQ ID NO:
                          TELEFAX: 212-751-6849
INFORMATION FOR SEO ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                            ZIP: 1015* VVI
COMPUTER READABLE FORM:
TRPE: Floppy disk
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                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/10/
FILING DATE: 20-JUNE-1998
ATTORNEY/AGENT INFORMATION:
NAME: Maria H. Lin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/100,412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: UNITED BIOMEDICAL INC., ET AL.
TITLE OF INVENTION: ARTIFICIAL T HELPER CELL
TITLE OF INVENTION: EPITOPES AS IMMUNE STIMULATORS FOR SYNTHETIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: 1
MOLECULE TYPE:
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                                                                                      REGISTRATION NUMBER: 29,323
REFERNCE/DOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
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Local Similarity 100.0%; Pred. No. 2.8e-12;
nes 26; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                  APPLICATION NUMBER: FILING DATE: 21-JU
                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM:
SOFTWARE: Word 97
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Maria H. Lin
REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
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amino acid
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                   46 amino acids
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SYSTEM: PC Windows
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NUMBER OF SEQUENCES: 122

CORRESPONDENCE ADDRESS:
ADDRESSE: MOTGAN & Finnegan, L.L.P.
STREET: 345 Park Avenue
CITY: New York
STATE: NY
COUNTRY: USA
ZIP: 10154-0054

COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
COMPUTER: 1BM PC COMPATIBLE
OPERATING SYSTEM: PC WINDOWS
SOFTWARE: WOY 97

CURRENT APPLICATION NUMBER: US/09/701,588
FILING DATE: 29-NOV-2000

CLASSIFICATION NUMBER: 09/100,414
FILING DATE: 20-JUNE-1998
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 1151-158US1
TELEPHONE: 212-751-6849
INFORMATION FOR SEQ ID NO: 110
SEQUENCE CHARACTERISTICS:
LENGTH: 46 amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
SEQUENCE DESCRIPTION: SEQ ID NO: 110
US-09-701-588-110
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US-09-701-588-110
US-09-701-588-110, Application US/09701588
; Sequence 110, Application US/09701588
; GENERAL INFORMATION:
; APPLICANT: Wang, Chang Yi
; APPLICANT: WANG, CHANG YI
; INVENTION: INVOSEL LIARH PEPTIDE
IMMUNOCENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
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Search completed: June 18, 2002, 08:11:59 Job time: 368 sec
                                                                                                                                                 Query Match 100.0%; Score 134; DB 21; Best Local Similarity 100.0%; Pred. No. 2.8e-12; Matches 26; Conservative 0; Mismatches 0;
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Result
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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DB
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1: /cgn2_6/ptodata/1/paa/PCT_NEW_COMB.pep:*

2: /cgn2_6/ptodata/1/paa/US06_NEW_COMB.pep:*

3: /cgn2_6/ptodata/1/paa/US07_NEW_COMB.pep:*

4: /cgn2_6/ptodata/1/paa/US07_NEW_COMB.pep:*

5: /cgn2_6/ptodata/1/paa/US09_NEW_COMB.pep:*

6: /cgn2_6/ptodata/1/paa/US10_NEW_COMB.pep:*

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US-09-446-415B-6
US-09-935-625-631
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US-09-935-625-19787
US-09-935-625-19787
US-09-935-625-19733
US-10-041-007-22
US-09-935-625-19733
US-10-041-007-23
US-60-360-039-17233
US-60-360-039-17233
US-60-360-39-13240
US-60-360-39-13240
US-69-935-625-557
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US-09-935-625-5733
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19787, A
1494, Ap
21627, A
592, App
240, App
557, App
556, App
6355, App
6353, App
6373, Ap
95732, Ap
9346, Ap
9371, Ap
9351, Ap
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850, App
17233, A
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27
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32.1	32.1	32.1	32.5	32.5	32.5	32.5	32.5	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8
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US-09-620-393B-4182	US-09-620-393B-8965	US-09-620-393B-4183	US-10-145-415-30	US-10-145-415-20	US-10-145-415-12	US-10-145-415-8	US-60-360-039-9644	US-09-935-625-7738	US-09-935-625-5226	US-09-935-625-9349	US-09-935-625-7739	US-09-935-625-5735	US-09-935-625-5227	US-09-935-625-9350	US-09-935-625-7740	US-09-935-625-5736	US-09-935-625-5228	US-60-360-039-17062
Sequence 4.	Sequence 89	Sequence 41	Sequence 30	Sequence 20	Sequence 12	Sequence 8,	Sequence 96	Sequence 77	Sequence 52	Sequence 93	Sequence 77	Sequence 57	Sequence 52	Sequence 93	Sequence 77	Sequence 57	Sequence 52	Sequence 17
4182, AP	8965, Ap	4183, Ap	0, Appl	0, Appl	2, Appl	Appli	9644, Ap	7738, Ap	5226, Ap	9349, Ap	739, Ap	5735, Ap	•	•	•	5736, Ap	•	17062, A

# ALIGNMENTS

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Sequence 6. Application US/09446415B
GENERAL INFORMATION:
APPLICANT: Beamer, Lesa J.
APPLICANT: Essenberg, David
APPLICANT: Essenberg, David
APPLICANT: Carroll, Stephen F.
APPLICANT: Carroll, Stephen F.
TITLE OF INVENTION: CRYSTALLIZATION, X-RAY DIFFRACTION, THREE-DIMENSIONAL
TITLE OF INVENTION: STRUCTURE DETERMINATION, RATIONAL DRUG DESIGN AND
TITLE OF INVENTION: MOLECULAR MODELING OF RELATED PROTEINS
FILE REFERENCE: 11034US02
CURRENT APPLICATION NUMBER: US/09/446,415B
CURRENT FILING DATE: 12000-07-19
PRIOR APPLICATION NUMBER: 08/879,565
PRIOR FILING DATE: 1997-06-20
NUMBER OF SED ID NOS: 12
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; OTHER INFORMATION: cholesteryl ester transfer protein (CETP) (Figure ; OTHER INFORMATION: 5) US-09-446-4158-6
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Sequence 3, Application US/09523033A
GENERAL INFORMATION:
APPLICANT: Kwoh, Deborah Y.
APPLICANT: Brostoff, Steven W.
APPLICANT: Carlo, Dennis J.
TITLE OF INVENTION: METHOD FOR INCREASING HDL CHOLESTEROL LEVEL FILE REFERENCE: TCS-428.0 US-1
CURRENT APPLICATION NUMBER: US/09/523,033A
CURRENT FILING NATE: 2000-03-10
PRIOR APPLICATION NUMBER: US 08/482,454
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SEQ ID NO 6
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Best Local
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TYPE: PRT
ORGANISM: Human
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Sequence 19787, Application US/09935625

GENERAL INFORMATION:
APPLICANT: N. ALEXANDROY et al.
APPLICANT: N. ALEXANDROY et al.
TITLE OF INVENTION: POLYNCLEOTIDES, POLYPEPTIDES, CEITITLE OF INVENTION: MODULATING VARIOUS RESPONSES
FILE REFERENCE: 2750-1481B
CURRENT APPLICATION NUMBER: US/09/935,625
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEO ID NOS: 33136
SEO ID NO 19787
LENGTH: 80
TYPE: PRT
                                                ; NAME/KEY: peptide
; LOCATION: 1..80
; OTHER INFORMATION:
US-09-935-625-19787
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US-09-935-625-19787
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APPLICANT: N. ALEXANDROV et al.

TITLE OF INVENTION: POLYNUCLEOTIDES, POLYPEPTIDES, CELLS, AND METHODS THEREOF CAPABLITILE OF INVENTION: MODULATING VARIOUS RESPONSES

FILE REFERENCE: 2750-1481P
Query Match
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SEQ ID NO 631
LENGTH: 80
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Best Local
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Best Local Similarity 100.0%;
Matches 11; Conservative 0;
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NUMBER OF SEQ ID NOS: 3
SOFTWARE: PatentIn version 3.1
SEQ ID NO 3
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CURRENT FILING DATE: 2001-08-24
                                                                                                                  FEATURE:
                                                                                                                                ORGANISM: Arabidopsis
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les 8; Conser
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Pred. No.
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Length 80;
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LENGTH: 180

TYPE: PRT
ORGANISM: Arabidopsis thaliana
FEATURE: Peptide
LOCATION: 1.180
OTHER INFORMATION: Ceres Seq. ID no. 3058194
US-09-935-625-21627
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; LOCATION: 1..180
; OTHER INFORMATION: Ceres Seq. ID no. 3058194
US-09-935-625-1494
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                                     Query Match
Best Local Similarity
Conservative
Conservative
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APPLICANT: N. ALEXANDROV et al.
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CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 33136
SEQ ID NO 1494
LENGTH: 180
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Matches 8; Conservative
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CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 33136
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                            1 RDGFLLLQMDFGFPEHLLVDFLQSL
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KEGVLFAKKDFNLPQHPLIESVPNL
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Pred. No. 4.1;
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8; Mismatches
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8; Mismatches
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US-09-935-625-592; Sequence 592; A

Application US/09935625

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US-10-041-007-22

Sequence 22, Application US/10041007

SERRAL INFORMATION:

APPLICANT: Matsuda, Seiichi P.T.

APPLICANT: Schepmann, Hala G

TITLE OF INVENTION: Ginkgo Blioba Levopimaradiene Synthase
FILE REFERENCE: P02081US1

CURRENT APPLICATION NUMBER: US/10/041,007

CURRENT FILING DATE: 2002-01-07

PRIOR APPLICATION NUMBER: US 60/259,881

PRIOR TILING DATE: 2001-01-05

PRIOR TILING DATE: 2001-01-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; NAME/KEY: peptide
; LOCATION: 1..183
; OTHER INFORMATION: Ceres Seq. ID
US-09-935-625-19733
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US-09-935-625-19733
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GENERAL INFORMATION:
APPLICANT: N. ALEXANDROV et al.
TITLE OF INVENTION: POLYNUCLEOTIDES, POLYPEPTIDES, CELLS, AND METHODS THEREOF CAPABLE
TITLE OF INVENTION: POLYNUCLEOTIDES, POLYPEPTIDES, CELLS, AND METHODS THEREOF CAPABLE
FILE REFERENCE: 2750-1481E
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CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 33136
SEQ ID NO 19733
LENGTH: 183
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Matches 8; Conservative
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APPLICANT: N. ALEXANDROV et al.
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Best Local
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Best Local
SOFTWARE: Patentin version 3.1
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LOCATION: 1..183
OTHER INFORMATION: Ceres Seq. ID no. 1976020
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Pred. No. 4.2;
8; Mismatches
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US-60-360-039-17233
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LENGTH: 628
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Best Local Similarity
Matches 11; Conserv
                     Query Match
Best Local Similarity
Matches 10; Conserv
                       Conservative
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APPLICANT: Cao, Yongwei
APPLICANT: Chen, Xianfeng
APPLICANT: Goldman, Barry S.
APPLICANT: Goldman, Barry S.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steveser C.
APPLICANT: Slater, Steveser C.
TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10(5.2052)A
CURRENT APPLICATION NUMBER: US/50/360,039
CURRENT FILING DATE: 2002-02-21
NUMBER OF SED ID NOS: 47374
SEQ ID NO 850
LENGTH: 348
TYPE: PRT
ORGANISM: Escherichia coli
US-60-360-039-850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; TYPE: PRT; ORGANISM: Ables grandis US-10-041-007-22
                                                                                      TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS
TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10(52052)A
CURRENT APPLICATION NUMBER: US/60/360,039
CURRENT FILLING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 17233
LENGTH: 390
TYPE: PRT
JORGANISM: Bacillus halodurans
US-60-360-039-17233
                                                                                                                                                                                                                                                                                  Sequence 17233, Application US/60360039
GENERAL INFORMATION:
APPLICANT: Cao, Yongwei
APPLICANT: Chen, Xianfeng
APPLICANT: Goldman, Barry S.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
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Best Local Similarity to...
""" hes 8; Conservative
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                    47.68;
Score 48; DB 7;
pred. No. 18;
2; Mismatches
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Pred. No. 16;
2; Mismatches
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Pred. No.
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Mismatches
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Indels

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356 RDGLLRLSVGLEKPEELMADF 376

1 RDGFLLLQMDFGFPEHLLVDF

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RESULT 12
US-60-360-039-13240
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Best Local Similarity
Watches 10; Conserve
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                                                                                                                                 RESULT 14
US-09-573-655B-787
                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Arabidopsis thaliana US-09-573-655B-240
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US-09-573-655B-240
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APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10(52052)A
CURRENT APPLICATION NUMBER: 05/60/360,039
CURRENT FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
EXCEL DRY
1340
LENGTH: 3340
LENGTH: 3340
LENGTH: 3340
               Sequence 787, Application US/09573655B
GENERAL INFORMATION:
APPLICANT: SOLOVYEY, Victor and TROUKHAN, Maxim
TITLE OF INVENTION: Sequence-Determined DNA Fragments and Corresponding Polypeptides
TITLE OF INVENTION: Thereby
FIGE REFERENCE: 2750-0876P
                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: Sequence-Determined DNA Fragments and Corresponding Polypeptides
TITLE OF INVENTION: Thereby
FILE REFERENCE: 2750-0876P
CURRENT APPLICATION NUMBER: US/09/573,655B
CURRENT FILING DATE: 2000-05-18
NUMBER OF SEQ ID NOS: 3281
SOFTWARE: Patentin version 3.0
SEQ ID NO 240
LENGTH: 428
TYPE: PRT
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GENERAL INFORMATION:
APPLICANT: SOLOVYEV, Victor and TROUKHAN, Maxim
TITLE OF INFORMATION:
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APPLICANT: Cao, Yongwei
APPLICANT: Chen, Xianf
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Best Local Similarity
Matches 11; Conserv
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CURRENT APPLICATION NUMBER: US/09/573,655B
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Pred. No. 24;
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Pred. No.
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Mismatches
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Sequence 557, Application us/09935625
[GENERAL INFORMATION:
APPLICANT: N. ALEXANDROV et al.
TITLE OF INVENTION: POLYNUCLEOTIDES, POLYPEPTIDES, CEITITLE OF INVENTION: MODULATING VARIOUS RESPONSES
FILE REFERENCE: 2750-1481p
CURRENT APPLICATION NUMBER: US/09/935,625
[CURRENT APPLICATION NUMBER: US/09/935,625]
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEO ID NOS: 33136
[SEQ ID NO 557]
LENGTH: 754
                                                                                                                                                                                                                                            ; FEATURE: peptide; NAME/KEY: peptide; LOCATION: 1..754; OTHER INFORMATION: Ceres Seq. ID no. 1825655 US-09-935-625-557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TYPE: PRT; ORGANISM: Arabidopsis thaliana US-09-573-6558-787
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Search completed: June 18, 2002, 08:07:29 Job time: 98 sec
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NUMBER OF SEQ ID NOS: 3281
SOFTWARE: PatentIn version 3.0
SEQ ID NO 787
LENGTH: 428
                                                                                                                                                           Query Match
Best Local Similarity
Matches 12; Conserv
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Best Local Similarity 29.4
Matches 10; Conservative
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Pred. No.
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Pred. No.
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Title:
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1: /cgn2_6/ptodata/2.

2: /cgn2_6/ptodata/2.

3: /cgn2_6/ptodata/2.

4: /cgn2_6/ptodata/2.

5: /cgn2_6/ptodata/2.

5: /cgn2_6/ptodata/2.
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length: 2000000000
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29.091 Million cell updates/sec
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338.441.88
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333.22.48.48
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Copyright (c) 1993 - 2000 Com
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/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
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US-09-171-969-7
US-08-844-280-4
US-09-18-18-42-6
US-09-06-726-2
US-09-06-726-2
US-09-06-726-2
US-09-18-44-280-2
US-09-18-44-280-2
US-08-815-652B-2
US-08-815-646B-18
US-08-813-818-17
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Sequence 14, Appli Sequence 2, Appli Sequence 4, Appli Sequence 4, Appli Sequence 2, Appli Sequence 6, Appli Sequence 6, Appli Sequence 2, Appli Sequence 11, Appli Sequence 11, Appli Sequence 17, Appli Sequence 17, Appli Sequence 17, Appli Sequence 37, Appli Sequence 
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40. 29.9 43.2 US-08-766-014-4 40. 29.9 578 I US-08-766-014-3 40. 29.9 608 I US-08-766-014-3 40. 29.9 872 I US-08-766-014-2 40. 29.9 906 2 US-08-766-014-2 40. 29.9 907 4 US-08-609-230A-9 40. 29.9 907 4 US-08-610-712-7 40. 29.9 940 4 US-08-810-712-7 39.5 29.5 1174 2 US-08-810-712-7 39.5 29.5 1268 4 US-08-481-105-20 39. 29.1 363 I US-08-484-105-20 39. 29.1 363 I US-08-89-244-2 39. 29.1 582 4 US-08-89-244-2 39. 29.1 582 4 US-08-99-244-2 39. 29.1 582 4 US-09-272-704A-10	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	0.7
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ALIGNMENTS

#### RESULT 2 US-09-171-969-4 В Ş US-08-879-565-14 US-08-879-565-14 CURRENT APPLICATION NUMBER: US/08/879,565A CURRENT FILING DATE: 1997-06-20 NUMBER OF SEQ ID NOS: 14 SOFTWARE: PATENTIN VET. 2.0 SEQ ID NO 14 Sequence 14, Application US/08879565A Patent No. 6093573 GENERAL INFORMATION: Sequence 4, Application US/09171969 Patent No. 6284533 Query Match Best Local S Matches APPLICANT: Beamer, Lesa J. APPLICANT: Carroll, Stephen F. APPLICANT: Elsenberg, David FITTLE OF INVENTION: THREE-DIMENSIONAL STRUCTURE OF TITLE OF INVENTION: BACTERICIDAL/PERMEABILITY-INCREASING PROTEIN FILE REFERENCE: 1103/11034US01 GENERAL INFORMATION: LENGTH: 470 TYPE: PRT ORGANISM: Human OTHER INFORMATION: cholesteryl ester transfer protein (CETP) (Figure OTHER INFORMATION: 5) FEATURE: CORRESPONDENCE ADDRESS: ADDRESSEE: Banner & Witcoff, Ltd. STREET: 75 State Street, Suite 2: APPLICANT: Thomas, LAWYENCE J. TITLE OF INVENTION. PLASMID-BASED VACCINE FOR TREATING ATHEROSCLEROSIS NUMBER OF SEQUENCES: 10 COMPUTER READABLE FORM STREET: 75 St CITY: Boston STATE: Massac COUNTRY: USA ZIP: 02109-18 445 RDGFLLLQMDFGFPEHLLVDFLQSLS 470 y Match 100.0%; Score 134; DB 3; Local Similarity 100.0%; Pred. No. 8.7e-14; hes 26; Conservative 0; Mismatches 0; 1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26 02109-1807 Massachusetts 2300 Length 470; Indels 0, Gaps

COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS

WordPerfect 6.1 Floppy disk

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Best Local Similarity
Matches 26; Conserv
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GREERAL INFORMATION:
APPLICANT: Thomas, Lawrence J.
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Patent No. 6284533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/640,713
FILING DATE: 01 May 1996 (01.05.96)
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/802,967
FILING DATE: 21 February 1997 (21.02.97)
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
NAME: Leon R. Yankwich
NAME: 1001 NUMBER: 30 737
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                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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NAME/KEY:
NAME/KEY:
CURRENT APPLICATION DATA
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Banner & Witcoff, Ltd
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                                                                                                                                                                                                                                                                                                                                                                                                                  451 RDGFLLLQMDFGFPEHLLVDFLQSLS 476
             COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WOYDPErfect 6.1
                                                                                                                             COUNTRY:
                                                                                                                                                  STATE:
                                                                                                                                                                                  STREET:
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PAGES: 632 - 634
DATE: 18-JUN-1987
RELEVANT RESIDUES IN SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS: Drayna, Dennis, et al.
TITLE: Cloning and sequencing of human
TITLE: cholesteryl ester transfer cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                    1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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FILING DATE: 01 May 1997 (01.05.97)
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)GY: linear
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Pred. No. 8.8e-1
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                         SOFTWARE: WordPerfect 6.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09,
FILING DATE: 01 May 1997
                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
ADDRESSEE: Banner & Witcoff, Ltd.
                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                      TITLE OF INVENTION: PLASMID-BASED VACCINE FOR TREATING ATHEROSCLEROSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 496 amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                               472 DGCLLLQMDFGFPKHLLVDFLQSLS 496
                                                                                    OPERATING SYSTEM:
                                                                                                                                                   21P:
          CLASSIFICATION:
                                                                                                       COMPUTER:
                                                                                                                                                                COUNTRY:
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DATE: 1988
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                                                                                                                                                                                                                                                                                                                                                                                                                                             2 DGFLLLQMDFGFPEHLLVDFLQSLS 26
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23; Conserv
                                                                                                                                                   02109-1807
                                                                                                                                                                                Massachusetts
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                  IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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01 May 1997 (01.05 or on: 514
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01 May 1997 (01.05.97)
NN: 514
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92.0%;
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                       (01.05.97)
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Pred. No. 5.1e-11;
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Best Local 9
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                                                                                                          CLASSIFICATION: 7
PRIOR APPLICATION DAITS: 9607993.4
APPLICATION UMBER: 9607993.4
FILING DATE: 18-APR-1996
ATTORNEY/AGENT INFORMATION:
NAME: Gimmi, Edward R
REGISTRATION NUMBER: 38,891
REFERENCE/DOCKET NUMBER: P31457-2
TELECOMUNICATION INFORMATION:
TELECHHONE: 610-270-4478
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INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
LENGTH: 50 amino acids
              INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS: LENGTH: 97 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 08/802,967
APPLICATION NUMBER: 08/802,967
FILING DATE: 21 February 1997 (21.02.97)
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,237
REGISTRATION NUMBER: 30,237
                                                                                                                                                                                                                                                                                             COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ for windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/844,280
FILING DATE: 18-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: SmithKline Beecham Corporation
STREET: 709 Swedeland Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Lawlor, Elizabeth TITLE OF INVENTION: No. 5747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE: amino acid sequence of peptide encoded FEATURE: by bases 10 to 159 of SEQ ID NO:5
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HYPOTHETICAL:
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APPLICATION NUMBER: 08/640,713
FILING DATE: 01 May 1996 (01.05.96)
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hes 15; Conservation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 709 Swedeland CITY: King of Prussia STATE: PA
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                                                                                             TELEFAX: 610-270-5090
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amino acid
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Pred. No. 4.6e-06;
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GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: LAWLOF, Elizabeth J.
FITTLE OF INVENTION: No. 6210940el Compounds
FILE REFERENCE: 931457-2-D1
CURRENT APPLICATION NUMBER: US/09/006,726
CURRENT FILING DATE: 1998-01-14
EARLIER APPLICATION NUMBER: 08/844,280
EARLIER APPLICATION NUMBER: UR5007993.4
EARLIER FILING DATE: 1997-04-18
EARLIER FILING DATE: 1996-04-18
NUMBER OF SEQ ID NOS: 6
SOFTWARE: EASTSEQ for Windows Version 3.0
SEQ ID NO 4
LENGTH: 97
TYPE: PRT
ORGANISM: Streptococcus pneumoniae
US-09-006-726-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; STRANDEDNESS; single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-844-280-4
                                                                                                                                                                                                                                                                                                                                                                                            US-08-844-280-2
; Sequence 2, Application US/08844280
; Patent No. 5747315
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Best Local Similarity
Matches 10; Conserv
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Best Local Similarity
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEG for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/844,280
FILING DATE: 18-APR-1997
CLASSIFICATION: PRIOR APPLICATION DATA:
APPLICATION NUMBER: 9607993.4
                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: SmithKline Beecham Corporation
STREET: 709 Swedeland Road
CITY: King of Prussia
                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: No. 57473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        33 GFLLEAMDYGFPPH 46
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                                                                                                                                                                                                   COUNTRY: USA
ZIP: 19406-0939
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71.48;
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Pred. No. 0.051;
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Pred. No. 0.051;
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GENERAL INFORMATION:
APPLICANT: Lawlor, Elizabeth J.
APPLICANT: Lawlor, Elizabeth J.
APPLICANT: Lawlor, 80, 6210940el Compounds
FILE REFERENCE: 931457-2-D1
CURRENT APPLICATION NUMBER: US/09/006,726
CURRENT FILING DATE: 1998-01-14
EARLIER APPLICATION NUMBER: 08/844,280
EARLIER FILING DATE: 1997-04-18
EARLIER FILING DATE: 1997-04-18
EARLIER APPLICATION NUMBER: UX9607993.4
EARLIER FILING DATE: 1966-04-18
NUMBER OF SED ID NOS: 6
SOPTWARE: PASTSEQ for Windows Version 3.0
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                                                                                                                                                                                                                               RESULT 9
US-09-118-442-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Streptococcus pneumoniae US-09-006-726-2
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LENGTH: 587
                                                                                                                                                                                                                                                                                                                                                                                                Query Match 41.8%;
Best Local Similarity 71.4%;
Matches 10; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 41.8%;
Best Local Similarity 71.4%;
Matches 10; Conservative
                                                          APPLICANT: Martino-Catt, Susan J.
APPLICANT: Wang, Hongyu
APPLICANT: Beach, Larry R.
APPLICANT: Wang, Xun
APPLICANT: Bowen, Benjamin A.
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ATTORNEY/AGENT INFORMATION:
NAME: Climmi, Edward R
REGISTRATION NUMBER: 38,891
REFERENCE/DOCKET NUMBER: P314
TELECOMMUNICATION INFORMATION:
TELEPHONE: 610-270-4478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS: LENGTH: 587 amino acids
TITLE OF INVENTION: Genes Controlling Phytate Metabolism in TITLE OF INVENTION: Plants and Uses Thereof FILE REFERENCE: 0706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
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STRANDEDNESS: si
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    Mismatches

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Pred. No. 0.43;
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CURRENT APPLICATION NUMBER: US/09/118,442B
CURRENT FILING DATE: 1998-07-17
EBARLIER APPLICATION NUMBER: 60/055,446
EARLIER FILING DATE: 1997-08-11
EARLIER FILING DATE: 1997-08-08
EBARLIER FILING DATE: 1997-08-08
EBARLIER APPLICATION NUMBER: 60/053,944
EARLIER APPLICATION NUMBER: 60/053,944
EARLIER APPLICATION NUMBER: 60/053,944
EARLIER FILING DATE: 1997-07-28
NUMBER OF SEQ ID NOS: 31
SOFTMARE: FastSEQ for Windows Version 3.0
SEQ ID NO 6
                                                                                                                                     RESULT 11
US-08-050-132A-2
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US-09-677-064-6
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CURRENT APPLICATION NUMBER: US/09/677,064
CURRENT EILING DATE: 2000-09-29
PRIOR APPLICATION NUMBER: 60/055,446
PRIOR FILLING DATE: 1997-08-11
PRIOR APPLICATION NUMBER: 60/055,526
PRIOR FILLING DATE: 1997-08-08
PRIOR APPLICATION NUMBER: 60/053,944
PRIOR APPLICATION NUMBER: 09/118,442
PRIOR APPLICATION NUMBER: 09/118,442
PRIOR APPLICATION NUMBER: 09/118,442
PRIOR FILLING DATE: 1998-07-17
PRIOR FILLING DATE: 1998-07-17
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Sequence 2, Application US/08050132A
Patent No. 5651007
GENERAL INFORMATION:
APPLICANT: Wozney, John M.
APPLICANT: CHESTE, Anthony
TITLE OF INVENTION: BMP-9 COMPOSITIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 31
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 6
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Best Local Similarity
Matches 13; Conserv
                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 13; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Wang, Hongyu
APPLICANT: Beach, Larry R.
TITLE OF INVENTION: Genes Controlling Phytate Mctabolism in
TITLE OF INVENTION: Plants and Uses Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 353
TYPE: PRT
ORGANISM: Zea mays
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Pred. No. 1.3;
6; Mismatches
                                                                                                                                                                                                                                                                                                                      6; Mismatches
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Pred. No. 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (617) 876-5851
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 428 amino acids
                                                                                    COUNTRY: US
ZIP: 02140
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: PATENTIA FORMS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
**POTYTAM TAMESTAR NUMBER. PG 750 750
                                                                                                                                                                                                                                           TITLE OF INVENTION: BMP-9 COMPOSITIONS
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
ADDRESSED: Genetics Institute, Inc.
STREET: Legal Affairs - 87 CambridgePark Drive
CITY: Cambridge
STATE: MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 428 amino acids
TYPE: amino acid
TOPOCLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOPTWARE: Patentin Release #1.0, version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/050,132A
FILING DATE:
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Rosen, Vicki A.
APPLICANT: Wozney, John M.
APPLICANT: Celeste, Anthony J.
APPLICANT: Song, Jeffrey
APPLICANT: Thies, Scott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FISH PC-DOS_MS-DOS
COMPUTER: PC-DOS_MS-DOS
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PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (617) 876-1170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Kapinos, Ellen J.
REGISTRATION NUMBER: 32,245
                                     APPLICATION NUMBER: US/00
FILING DATE: 04-DEC-1996
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: Legal A CITY: Cambridge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     49 EGVFDLQM---FLENMKVDFLRSLN 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP: 02140
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 DGFLLLQMDFGFPEHLLVDFLQSLS 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12; Conservative
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Legal Affairs - 87 CambridgePark Drive
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      08/254,353
                                                                          US/08/750,222A
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Pred. No. 21;
5; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:

APPLICANT: Wozney, John M.

APPLICANT: Celeste, Anthony

APPLICANT: Song, Jeffrey

APPLICANT: Thies, R. Scott

TITLE OF INVENTION: BMP-9 C
Query Match
Best Local Similarity 48.0
Best Local Similarity 48.0
Conservative
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Best Local Similarity
Matches 12; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (617) 876-5851
INFORMATION FOR SEQ ID NO: 3
SEQUENCE CHARACTERISTICS:
LENGTH: 428 amino acids
                                                                                                                                                                                                       TELEFAX: (617) 876-58: INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                      NAME: KAPINOS, Ellen J.
REGISTRATION NUMBER: 32,245
REFERENCE/DOCKET NUMBER: GI 5
TELECOMMUNICATION INFORMATION:
TELEPHANE: (617) 876-5851
TELEPHANE: (617) 876-5851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: US
ZIP: 02140
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/815,652B
                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 428 amino acid
                                                                                                                                                                                                                                                                                                                            FILING DATE:
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: Genetics Institute, Inc.
STREET: Legal Affairs - 87 CambridgePark Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 428 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (617) 876-1170
                                                                                                                     MOLECULE TYPE: protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Kapinos, Ellen J. REGISTRATION NUMBER: 32,245
                                                                                                                                    TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Cambridge
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                               Pred. No. 2
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Pred. No. 21;
               Mismatches
                                              DB 3; Length 428;
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 Length 428;

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2 DGFLLLQMDFGFPEHLLVDFLQSLS 26

RESULT 14 US-08-254-353A-2 밁

49

EGVFDLOM---FLENMKVDFLRSLN 70

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SEQUENCE CHARACTERISTICS:
LENGTH: 428 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-254-353A-2
                                                                                                                                                                                                                                                                                                      RESULT 15
PCT-US92-05374A-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: ROSEN, VICKI A.
APPLICANT: WOZNEY, John M.
APPLICANT: WOZNEY, John M.
APPLICANT: Celeste, Anthony J.
APPLICANT: Song, Jeffrey
APPLICANT: Thies, Scott
TITLE OF INVENTION: BMP-9 COMPOSITIONS
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:

MEDIUM TYPE: Ploppy disk

COMPUTER: IBM PC COMPATIBLE

OPERATING SYSTEM: PC-DOS/MS-DOS

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PS-tentin Release #1.0, Vers

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/254,353A

FILLING DATE:

CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:

NAME: Kapinos, Ellen J.

RECIERENCE/DOCKET NUMBER: 32,245

REFERENCE/DOCKET NUMBER: 31,245

REFERENCE/DOCKET NUMBER: 31,170

TELEPHONE: (517) 876-1170

TELEPHONE: (517) 876-15851

INFORMATION FOR SEO, ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/08254353A Patent No. 6287816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 33.2%;
Best Local Similarity 48.0%;
Matches 12; Conservative
                                                                                                                                                                                                                                                        Sequence 2, Application PC/TUS9205374A GENERAL INFORMATION:
                                                                                                     APPLICANT: Wozney, John M.
APPLICANT: Celeste, Anthony
TITLE OF INVENTION: BMP-9 COMPOSITIONS
UMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genetics Institute, Inc.
STREET: Legal Affairs - 87 CambridgePark Drive
COMPUTER READABLE FORM:
                        ZIP:
                                                                                    STREET: Legal A:
CITY: Cambridge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: Legal A:
CITY: Cambridge
STATE: MA
                        COUNTRY: U
ZIP: 02140
                                                                   STATE:
                                                                                                                                                                                                                                                                                                                                                                                             49 EGVFDLQM---FLENMKVDFLRSLN 70
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ZIP: 02140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Genetics Institute, Inc.
STREET: Legal Affairs - 87 CambridgePark Drive
                                                                                                                                                                                                                                                                                                                                                                                                                2 DGFLLLQMDFGFPEHLLVDFLQSLS 26
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Pred. No. 21;
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                                                                                      Query Match 33.2%;
Best Local Similarity 48.0%;
                                                                      Matches 12;
                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: GI 5186A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 876-1170
TELEPHAX: (617) 876-5851
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 428 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYRE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UMBER: PCT/US92/05374A
FILING DATE: 19920625
                                                                                                                                                                               MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                 TYPE: AMI
49 EGVEDLQM---FLENMKVDFLRSLN 70
                                                                                                                                                                                                                                                                                                                                                              NAME: Kapinos, Ellen J.
REGISTRATION NUMBER: 32,245
                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
                                2 DGFLLLQMDFGFPEHLLVDFLQSLS 26
                                                                                                                                                                                                 H: 428 amino acids
AMINO ACID
OGY: linear
                                                                      Conservative
                                                                      5; Mismatches
                                                                                        Score 44.5;
Pred. No. 21;
                                                                                                         DB 5;
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                                                                                                       Length 428;
                                                                      Indels
                                                                      Gaps
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Search completed: June 18, 2002, 08:06:56 Job time: 65 sec

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Post-processing: Minimum Match 0% Maximum Match 100%
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Perfect score:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Match
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2: pir2:*
3: pir3:*
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162
29.92
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C9030
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A26941
A38700
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T32634
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hypothetical prote
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2-dehydro-3-deoxyp
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               probable photosyst
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47	47	47	47	47	47	47	47	47	47.5	47.5	47.5	48	48	48	48.5
29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.3	29.3	29.3	29.6	29.6	29.6	29.9
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2	ω	2	N	2	N	N	N	щ	N	2	N	N	N	2	N
A95262	E81140	T28171	JC7599	A71314	140070	AC0663	T15635	G64371	T18360	T44512	C75007	164134	H90445	AD2533	I38972
probable formate d	5-methyltetrahydro	hypothetical prote	cisplatin(CDDP)	trigger factor tis	2-dehydro-3-deoxy	conserved hypothet	hypothetical prot	conserved hypothet	Os-1p - Neurospor	hypothetical prote	competence-damage	D-lactate dehydrog	hypothetical	hypothetical	hypoxia-inducible

### ALIGNMENTS

R:Pape, M.E.; Rehberg, E.F.; Marotti, K.R.; Melchior, G.W.
Arterioscler. Thromb. 11, 1759-1771, 1991
A;Tit.le: Molecular cloning, sequence, and expression of cynomolgus monkey cholesteryl asma high density lipoprotein levels.
A;Reference number: A53176; MUID:92031355
A;Accession: A53176

cholesteryl ester transfer protein - crab-eating macaque C;Species: Macaca fascicularis (crab-eating macaque) C;Date: 12-May-1994 #sequence\_revision 12-May-1994 #text\_change 07-May-1999 C;Accession: A53176

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cholesteryl ester transfer protein precursor - human C;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Date: 19-Nov-1988 *sequence_revision 19-Nov-1988 *text_change 21-Jul-2000 C;Date: 19-Nov-1988 *sequence_revision 19-Nov-1988 *text_change 21-Jul-2000 C;Accession: AA5941 C;Accession: AA5941 R;Drayna, D.; Jarnagin, A.S.; McLean, J.; Henzel, W.; Kohr, W.; Fielding, C Nature 327, 632-634, 1987
                                                                                                                                                                                                                      A; Title: Cloning and sequencing of human cholesteryl ester transfer protein cDNA. A; Reference number: A26941; MUID:87258172
A; Accession: A26941...
A;Gene: GDB:CETP
A;Cross-references: GDB:119773; OMIM:118470
A;Map position: 16q13-16q13
F;1-17/Domain: signal sequence #status predicted <SIG>F;18-493/Product: cholesteryl ester transfer protein #s
                                                                                                                                                A;Molecule type: mRNA
A;Rosidues: 1-493 -CDRA>
A;Cross-references: EMBL:M30185; NID:g180259; PIDN:AAA51977.1; PID:g180260
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A;Molecule type: mRNA
A;Residues: 1-493 <PAP>
                                                                                                                           C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 16; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         52.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 85; DB Pred. No. 8.7e 1; Mismatches
                                                                                                                                                                                                                                                                                                                            Henzel, W.; Kohr, W.; Fielding, C.; Lawn,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2;
     protein #status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .7e-05;
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        predicted
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Query Match
Best Local Similarity
Matches 16; Conserv

Conservative

52.5%;

Score 85; DB 2; Pred. No. 8.7e-05; Wismatches 0;

Length 493; Indels

0:

Gaps

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RESULT 3
A38700
cholesteryl ester transfer protein - golden hamster (fragment)
C;Species: Mesocricetus auratus (golden hamster)
C;Date: 28-Feb-1992 #sequence_revision 10-Apr-1992 #text_change 05-Nov-1999
C;Accession: A38700
R;Jiang, X.C.; Moulin, P.; Quinet, E.; Goldberg, I.J.; Yacoub, L.K.; Agellon
J. Biol. Chem. 266, 4631-4639, 1991
A;Title: Mammalian adipose tissue and muscle are major sources of lipid tran
A;Reference number: A38700; MOID:91154277
A;Accession: A38700
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-289 <JIA>
A;Residues: 1-289 <JIA>
A;Residues: 1-289 <JIA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Reference number: I46692; MUID:89215620
A;Accession: I46692
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cholesteryl ester transfer protein - rabbit (fragment) c;Species: oryctolagus cuniculus (domestic rabbit) C;Date: 14-Feb-1997 #sequence_revision 14-Feb-1997 #te: C;Accession: 146692 R;Nagashima, M; McLean, J.W.; Lawn, R.M. J. Lipid Res. 29, 1643-1649, 1988 J;Title: Cloning and mRNA tissue distribution of rabbinations.
   A; Reference number:
                                                                                                                     N; Alternate names: tetanus neurotoxin
                                                                                                                                                                                                                              ₽
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C;Genetics:
A;Gene: CETP
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A; Residues: 1-497 < NAG>
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                                                                                                                                    tentoxylysin (EC 3.4.24.68) precursor - Clostridium tetani
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     xin: primary structure, A25689; MUID:87053814
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830

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2 QYIKANSKFIGITE 15

Similarity

100.0%

Score 70; Pred. No.

DB 1; 0.047;

Length 1315

Indels

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Gaps

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Conservative

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Mismatches

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A;Reference number: JS0098; MUID:89093918
A;Contents: annotation; epitope region
R;Schlavo, G; Benfenati, F.; Poulain, B.; Rossetto, O.; de Laureto. P D Nature 359, 832-835, 1992
A;Title: Tetanno and testing the property of the property o
                                                                                                                                                                                                                                                                                                                                                                                                                                             C:Comment: The source of this protein was an extrachromosomal plasmid. C:Comment: The precursor is cleaved by endogenous proteinase activity to form light (dual chains are not toxic when separated). The amino end of the heavy chain (fragment C:Comment: Fragment B forms ion channels in a lipid bilayer. Fragment C binds to gang C:Comment: This potent neurotoxin binds to peripheral neuronal synapses, is internall presynaptic neurons. It inhibits neurotransmitter release by proteolytic cleavage of
                                                                                                                                                                       C;Superfamily: tetanus toxin
C;Keywords: hydrolase; metalloproteinase; neurotoxin; t
F;2-457/Product: tentoxylysin heavy chain (fragment A)
F;461-1315/Product: tentoxylysin heavy chain (fragment A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eur. J. Biochem. 229, 61-69,
A;Title: Structural studies
A;Reference number: S69348;
                                                                                        F;865-1315/Domain: channel forming (fragment B) *status predicted <TXB>F;865-1315/Domain: ganglioside binding (fragment C) *status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                   C; Function:
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Eur. J. Biochem. 229, 61-69, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Title: Tetanus and botulinum-B neurotoxins block A; Reference number: S27125; MUID:93063293
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A;Residues: 865-894 <FR35
R;Matsuda, M.; Lei, D.L.; Sugimoto,
Infect. Immun. 57, 338-3593, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R; Fairweather, N.F.; Lyness, V.A.; Pickard, D.J.; Allen, G.; Thomson, R.O. J. Bacteriol. 165, 21-27, 1986
A;Title: Cloning, nucleotide sequencing, and expression of tetanus toxin f A;Reference number: A25194; MUID:86085672
A;Accession: A25194
                                                                                                                                                                                                                                                                                                                                                                   A; Description: blocks neuroexocytosis via hydrolysis of a Gln-Phe peptide bond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Accession: S69348
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Nucleic Acids Res. 14, 7809-7812, 1986
A; Title: The complete nucleotide sequence of
A; Reference number: A25757; MUID:87040747
A; Accession: A25757
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A;Accession: B25194
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A; Cross-references: GB: X06214; NID: g40773;
A; Experimental source: strain CN3911
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A; Residues: 743-1315
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A; Residues: 1-1315 <EIS>
;233,237/Binding site: zinc (His) #status
;234/Active site: Glu #status predicted
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B.C) #status experimental
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conserved hypothetical protein vC1432 [Imported] - Vibrio cholerae (strain N16961 serogr C;Species: Vibrio cholerae
C;Species: Vibrio cholerae
C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Feb-2001
C;Accession: D82199
R;Heidelberg, J.F.; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.: Gwinn, M.L.; Dodson, R.J.; Chardson, D.; Ermolaeva, M.D.; Vamathevan, J.; Bass, S.; Qin. H.; Dragoi, I.; Sellers, F. 1, R.R.; Mekalanos, J.J.; Venter, J.C.: Fraser, C.M.
Nature 406, 477-483, 2000
A;Title: DNA Sequence of both chromosomes of the cholera pathogen vibrio cholerae.
A;Reference number: A82035; MUID:20406833
A;Accession: D82199
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-310 <HEID
A;Experimental source: serogroup 01; strain N16961; biotype El Tor
C;Genetics:
A;Genetics:
A;Genetics:
A;Genetics:
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A;Genetics:
C;Superfamily: conserved hypothetical protein MJ1157
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C; Species: Caenorhabditis elegans
C; Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 04-Mar-2000
C; Accession: T32G34
R; Gattung, S.; Holmes, A.
submitted to the EMBL Data Library, December 1997
A; Description: The sequence of C. elegans cosmid F42G8.
A; Reference number: Z212O3
A; Accession: T32G34
A; Status: preliminary; translated from GB/EMBL/DDBJ
A; Caenoria type: DNA
A; Residues: 1-458 GGAT>
A; Cross-references: EMBL:AF038618; PIDN:AAB92O68.1; GSPDB:GK00022; CESP:F42G8.9
A; Caenetics:
A; Genetics:
A; Genetics:
A; Genetics: 1947; 171/3; 227/1; 313/3; 398/1
C; Superfamily: Caenorhabditis elegans hypothetical protein F42G8.9
C; Superfamily: Caenorhabditis elegans hypothetical protein F42G8.9
RESULT 8
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related to small s protein [imported] related to small s protein B24M22.200
c;Species: Neurospora crassa
C;Date: 28-Jul-2000 #sequence_revision 2
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Pred. No. 2.5;
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  28-Jul-2000 #text_change
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    28-Jul-2000
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C:Species: Melanoplus sanguinipes entomopoxvirus
A;Variety: isolate Tuscon
C;Date: 21-Jan-2000 #sequence_revision 21-Jan-2000 #text_change 21-Jul-2000
C;Accession: T28176
R;Afonso, C.L.; Tulman, E.R.; Lu, Z.; Oma, E.; Kutish, G.F.; Rock, D.L.
J: Virol. 73, 533-552, 1999
A;Title: The genome of Melanoplus sanguinipes entomopoxvirus.
A;Reference number: Z20484; MUID:99102612
A;Reference number: Z20484; MUID:99102612
A;Recession: T28176
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R;Schulte, U; Aign, V.; Hoheisel, J.; Brandt, P.; Fartmann, submitted to the Protein Sequence Database, July 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Gene: aroH
C;Superfamily: phospho-2-dehydro-3-deoxyheptonate aldolase
C;Keywords: aldehyde-lyase; carbon-carbon lyase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-348 <KUR>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Parkhill, J.; Wren, B.W.; Thomson, N.R.; Titball, R.W.; Holden, M.T.G.; Prentice, deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, Il, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barre Nature 413, 523-527, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2-dehydro-3-deoxyphosphoheptonate aldolase (EC 4.1.2.15) [imported] - Yersinia pestis C;Species: Yersinia pestis C;Dete: 02-Nov-2001 *sequence_revision 02-Nov-2001 *text_change 27-Nov-2001 C;Accession: AD0294
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A;Residues: 1-1071 <SCH>
A;Cross-references: EMBL:AL390354; GSPDB:GN00116;
A;Experimental source: strain OR74A
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A; Accession: T51224
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-386 <AFO>
A; Cross-references: EMB
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A; Introns: 954/1; 981/2
                                                                A; Status: preliminary; translated
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Best Local Similarity
Matches 9; Conserv
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Best Local Similarity 40.0
Matches 12; Conservative
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Pred. No.
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Pred. No. 17;
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Barrel
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EMBL: AF063866; NID: g4049647; PIDN: AAC97854.1; PID: g4049894

76 GEPEHVLPEYLKSI

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A; Experimental C; Genetics: A; Note: MSV015
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                                                                                                                                                                                                                                                                                                                                                           conserved hypothetical protein PA1192 [imported] - Pseudomonas aeruginosa (: C;SpecLes: Pseudomonas aeruginosa C;SpecLes: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000 C;Accession: C83497 [C;Accession: C83497 [C.K.; Pham, X.O.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hich adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Lari L.Dry, S.; Olson, M.V.
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A;Residues: 1-215 <KUR>
A;Cross-references: GB:AE001437; PIDN:AAK80027.1;
A;Experimental source: Clostridium acetobutylicum
                                                                                                                                         A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-274 <STO>
A;Cross-references: GB:AE004549; GB:AE004091;
A;Experimental source: strain PAO1
C;Genetics:
A;Gene: PAI192
A;Gene: PAI192
C;Superfamily: conserved hypothetical protein
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                                                                                                                                                                                                                                                                                       A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, A;Reference number: A82950; MUID:20437337 A;Accession: C83497
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Matches 11
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Best Local Similarity
Matches 9; Conserv
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                                                     Matches
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                 GFPEHLLVDFLQSL 30
l Similarity 55.0
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8; Conserv
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                                                                                                                                             conserved hypothetical protein MJ1157
                                             31.5%;
milarity 57.1%;
Conservative
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Pred.
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Pred. No.
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4.8;
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ATCC824
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K.; Lim,
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RESULT 13
S74559
Ilpoic acid synthetase (EC 2.8.1.-) 1 - Synechocystis sp. (strain PCC 6803)
N,Alternate names: protein slr1598
C;Species: Synechocystis sp.
A;Variety; PCC 6803
C;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 20-Jun-2000
C;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 20-Jun-2000
C;Accession: S74959
C;Accession: S74959
R;Kaneko, T; Sato, S; Kotani, H; Tanaka, A; Asamizu, E; Nakamura, Y;; |
R;Kaneko, T; Sato, S; Kotani, H; Tanaka, A; Asamizu, E; Nakamura, Y;; |
R;Kaneko, T; Sato, S; Kotani, H; Tanaka, A; Asamizu, E; Nakamura, Y;; |
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A;Title: Sequence analysis of the genome of the unicellu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Description: catalyzes sulfur insertion as one stappathway: lipoate biosynthesis C;Superfamily: lipoic acid synthase c;Keywords: lipoate biosynthesis; sulfurtransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2-dehydro-3-deoxyphosphoheptonate aldolase (EC 4.1.2.15) (Trp-sensitive) - I N; Alternate names: 3-deoxy-D-arabino-heptulosonate-7-phosphate synthase; phc C; Species: Escherichia coli C; Date: 22-May-1981 #sequence_revision 31-oct-1997 #text_change 18-Jun-1999 C; Accession: H64928; JQ1131; A31384; A01107 R; Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; F.A.; Rose, D.J.; Mau, B.; Shao, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Gene: lipA-1
A; Start codon: GTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: EMBL:D90902; GB:AB001339; A;Note: the nucleotide sequence was submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Reference number: S74322;
A; Accession: S74959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A.; Rose, D.J.; Mau, B.; Shāo, Y. Science 277, 1453-1462, 1997
A;Title: The complete genome sequence of Escherichia A;Reference number: A64720; MUID:57426617
A;Accession: H64928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
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A;Title: Mutational analysis of the catalytic A;Reference number: A31384; MUID:89053867 A;Accession: A31384
                                                                                                                                                                                                                                                                                                  A;Cross-references: GB:AE000265; GB:U00096; NID:g2367122; PIDN:AAC74774.1; PID:g17879
A;Experimental source: strain K-12, substrain MG1655
R;Hudson, G.S.; Rellos, P.; Davidson, B.E.
Gene 102, 87-91, 1991
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                                                                                   A;Residues: 1-332,'S',334-348 A;Residues: 1-332,'S',334-348 A;ROSS-references: GB:M38266; NID:g145376; PIDN:AAA23497.1;
R;Ray, J.M.; Yanofsky, C.; Bauerle, R.
J: Bacteriol. 170, 5500-5506, 1988
                                                                                                                                                                                                                                                  A; Title: Two promoters control the aroH gene A; Reference number: JQ1131; MUID:91323737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: nucleic acid sequence not shown; translation not shown
                                                                                                                                                                                                                       A; Accession: JQ113:
                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: DNA
                                                                                                                                                                                            A; Molecule type: DNA
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Best Local
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Pred. No.
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6.7;
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                                                                 and
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Yamada, M., Ya

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phospho-2-de

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RESULT 15

C90930

hypothetical protein ECs2411 [imported] - Escherichia coli (strain O157:H7, substrain RI C;Species: Escherichia coli
C;Species: Escherichia coli
C;Accession: C90930
C;Accession: C90930
R;Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.G. gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H.
DNA Res. B, 11-22, 2001
A;Title: Complete genome sequence of enterohamorrhagic Escherichia coli O157:H7 and gence of A;Accession: C90930
A;Accession: C90930
A;Scatus: preliminary
A;Molecule type: DNA
A;Residues: 1-348 <HAY>
A;Residues: 1-348 <HAY>
A;Residues: GB:BA000007; PIDN:BAB35834.1; PID:g13361878; GSPDB:GN00154
A;Beperimental source: strain O157:H7, substrain RIMD 0509952
C;Genetics:
A;Gene: ECs2411
C;Superfamily: phospho-2-dehydro-3-deoxyheptonate aldolase
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A; Residues: 1-122, 'A', 124-202; 204, 'Q', 206-332, 'RQ', 335-348 <RAYY
A; Cross-references: GB:J04221
A; Cross-references: GB:J04221
B; Cymrawskl, G; Gunsalus, R.P.; Brown, K.D.; Yanofsky, C.
J. Mol. Biol. 145, 47-73, 1981
A; Title: Structure and regulation of aroH, the structural gene for the tryptophan-repres
A; Reference number: A01107; MUID:81267314
A; Reference number: A01107; MUID:81267314
A; Accession: A01107
A; Molecule type: DNA
A; Residues: 1-36;231-332,'RQ',335-348 <ZURY
A; Cross-references: GB:J01592; GB:J01593
C; Genetics:
C; Genetics:
C; Function:
A; Gene: aroH
A; Map position: aldehyde-lyase; carbon-carbon lyase; this is one of the DAHP synthases the cacid-7-phosphate
A; Note: the first reaction in aromatic amino acid biosynthesis:
A; Note: feedback-inhibited by tryptophan; the other two DAHP synthases are tyrosine- and
C; Superfamily: phospho-2-debydro-3-deoxyheptonate aldolase
C; Keywords: aldehyde-lyase; aromatic amino acid biosynthesis; carbon-carbon lyase; shiki
Search completed: June 18,
Job time: 39 sec
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Best Local Similarity 75.0
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Best Local Similarity 75.
Matches 9; Conservative
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75.0%;
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                          2002, 08:06:30
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Pred. No. 8.2;
1; Mismatches
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Maximum Match 100%
Listing first 45 summaries
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            Pred. No. 1s the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Copyright (c) 1993 - 2000 Compugen
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SUBCELULAR LOCATION: Extracellular.
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SIMILARITY: BELONGS TO THE BPI/CETP/LBP/PLTP FAMILY.
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FUNCTION: CETP IS AN EXTREMELY HYDROPHOBIC TRANSFER OF INSOLUBLE CHOLESTERYL ESTERS IN
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-1- FUNCTION: CETP IS AN EXTREMBLY HYDROPHOBIC PROTEIN INVOLVED IN THE TRANSFER OF INSOLUBLE CHOLESTERYL ESTERS IN THE REVERSE TRANSPORT
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Pape M.E., Rehberg E.F., Marchti K.R., Melchlor G.W.;
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                                                                                                                                            (Fragment).
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TISSUE SPECIFICITY: PLASMA; SYNTHESIZED MAINLY IN THE SIMILARITY: BELONGS TO THE BPI/CETP/LBP/PLTP FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16;
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                                                Eutheria;
                                                                    Metazoa;
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(Rel.
(Rel.
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22, Last sequence update)
35, Last annotation update)
transfer protein (Lipid transfer
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                                             Chordata;
Rodentia;
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94.1%;
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N-LINKED (GLCNAC...)
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Pred. No. 2.9e
1; Mismatches
                                                                                           hamster)
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CHOLESTERYL ESTER TRANSFER PROTEIN
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                                             Craniata; Vertebrata; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                      PRT;
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2.9e-05;
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                                                Cricetinae;
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Matches 15
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01-AUG-1991
01-NOV-1997
Cholesteryl
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P22687;
                                                                                                                 (1)
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE-89215620; PubMed-3244015;
Magashima M., McLean J.W., Lawn R.M.;
Nagashima M., McLean J.W. Lawn R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; M63992; AAA37066.1; -.
PIR; A38700; A38700.
InterPro; IPR001124; LBP_BPI_CETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www..sb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         transfer protein mRNA, ";
J. Biol. Chem. 266:4631-4639(1991).
-I- EUNCTION: CETP IS AN EXTREMELY HYDROPHOBIC
TRANSFER OF INSOLUBLE CHOLESTERYL ESTERS IN
                                                                    J. Lipid Res. 29:1643-1649(1988).

- I- FUNCTION: CETP IS AN EXTREMELY HYDROPHOBIC FOR THE STERS IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF01273; LBP_BPI_CETP; 1.
Pfam; PF02886; LBP_BPI_CETP_C; 1.
SMART; SM00329; BPI2; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
MEDLINE-91154277; PubMed-1999438;
Jiang X.C., Moulin P., Quinet E.,
Agellon L.B., Compton D., Schnitz
       1 + + +
                                                                                                             Nagashima M., McLean J.W. "Cloning and mRNA tissue transfer protein.";
                                                                                                                                                                                                                           Oryctolagus cuniculus (Rabbit).
Eukaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
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                                                                                                                                                                                                               Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS00400;
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                                                                                                                                                                                                                                                                      (Fragment).
OF CHOLESTEROL.
OF CHOLESTEROL
TISSUE SPECIFICITY: PLASMA; SYNTHESIZED MAINLY IN IH
TISSUE SPECIFICITY: PLASMA; SYNTHESIZED MAINLY IN IH
TISSUE SPECIFICITY: DIASMA; SYNTHESIZED MAINLY IN IH
TISSUE SPECIFICITY: DIASMA; SYNTHESIZED FAMILY.
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SIMILARITY: BELONGS TO THE BPI/CETP/LBP/PLTP FAMILY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              transport; Cholesterol metabolism;
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289 AA;
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(Rel.
(Rel.
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    transfer protein precursor

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32330
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88
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Pred. No. 4.7e-05;
2; Mismatches 0;
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                                 SYNTHESIZED MAINLY IN THE LIVER
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                                                                        PROTEIN INVOLVED IN THE THE REVERSE TRANSPORT
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13-AUG-1987
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NON_TER
SIGNAL
MEDLINE-86085672; PubMed-3510187; Fairweather N.F., Lyness V.A., Pickard D.J., Allen "Cloning, nucleotide sequencing, and expression of fragment C in Escherichia coli."; J. Bacteriol. 165:21-27(1986).
                                                                                                                                                                           MEDLINE-87053814; PubMed-3536478;
Eisel U., Jarausch W., Goretzki K.
Weller U., Hudel M., Habermann E.
"Tetanus toxin: primary structure,
homology with botulinum toxins.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the
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P04958;
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                                                                                                 MEDLINE-87040747;
Fairweather N.F.,
"The complete nucl
                                                                                                                                                                                                                                                                      Bacteria; F
Clostridium
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                                                                   SEQUENCE
                                                                                       Nucleic
                                                                                                                                   SEQUENCE FROM N.A. STRAIN-CN3911;
                                                                                                                                                                    EMBO J.
                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                          NCBI_TaxID-1513;
                                                                                                                                                                                                                                                                                           Plasmid
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eic Acids
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SM00329; BPI2;
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15; Conservative
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                                                      OF 742-1314 FROM N.A.
86085672; PubMed=3510187;
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nucleotide sequence of t
Res. 14:7809-7812(1986).
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Last annotation updat
or (EC 3.4.24.68) (Ten
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N-LINKED (GLCNAC. . .) (POTENTIAL).

N-LINKED (GLCNAC. . .) (POTENTIAL).
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No. 0.00012;
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Niemann H.;
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                                   G., Thomson
tetanus tox
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EMBL; X04436; CAA28033.1; -. EMBL; M12739; AAA23282.1; -. EMBL; X06214; CAA29564.1; -.
                                                                                                                                                                                                                                                                                          use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                       InterPro; IPR000395; Bontoxilysin.
InterPro; IPR000130; Zn_MTpeptdse.
Pfan; PF01742; Peptidase_M27; 1.
                                                                                                                                                                                   PIR;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               X-RAY CRYSTALLOGRAPHY (2.7 ANGSTROMS) OF 874-1314
MEDLINE-97475217; PubMed-9334741;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  neurotransmitter release an 
EMBO J. 11:3577-3583(1992). 
[7]
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"Arrangement of disulfide br
in tetanus toxin.";
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                      PRINTS; PR00760; BONTOXILYSIN
                                                                                                                  MEROPS; M27.001; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     by proteolytic cleavage of synaptobrevin. *Nature 359:832-835(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dasgupta B.R., Montecucco C.; "Tetanus and botulinum-B neurotoxins block neurotransmitter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Schiavo G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IDENTIFICATION OF SUBSTRATE.
MEDLINE-93063293; PubMed-1331807;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IDENTIFICATION OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Tetanus toxin is a zinc protein and its inhibition neurotransmitter release and protease activity dependent
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[6]
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Krieglstein K.G., Henschen A.H., Welle.
"Limited proteolysis of tetanus toxin.
identification of cleavage sites.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PARTIAL SEQUENCE.
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                                                                                                                                                                                                                                                                                                                                                                s SWISS-PROT entry is copyright. It is produced through a collaboratic ween the Swiss Institute of Bioinformatics and the EMB outstation European Bioinformatics Institute. There are no restrictions on it is no we non-profit institutions as long as its content is in no we have a suppressible to the suppression of the
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MISCELLANDUS: THE C-TERMINAL OF THE HEAVY CHAIN RINGS OF GANGLIOSIDE RECEDIANCE.
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SUBUNIT: THE PRECURSOR POLYPEPTIDE IS
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CATALYTIC ACTIVITY: HYDROLYSIS OF 76-GLN-1-PHE-77
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                                                                                                                                    1AF9; 29-APR-98.
1A8D; 14-OCT-98.
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  PD001963;
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PubMed=1396558;
Bontoxilysin; 1
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01-NOV-1997 (Rel. 35, C)
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         EMBL; U32817; AAC23019.1; -. TIGR; HI1371.1; -. TIGR; HI1371.1; -. IPR000541; UPF0021. Pfam; PF01171; UPF0021; 1.
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MEDLINE-95350630; E
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                                                                                                                                                               te O., Clayton R.A., Kerlavage A.R., Fleischmann R.D.; mitted (SEP-1996) to the EMBL/GenBank/DDBJ databases. SIMILARITY: STRONG, TO E.COLI YDAO.
                                                                                                                   European Bioinformatics Institute.
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Hosouchi T., Matsuno A., Muraki A., Nakazaki N., Naruo K.,
Okumura S., Shimpo S., Takeuchi C., Wada T., Watanabe A.,
Yamada M., Yasuda M., Tabata S.;
"Sequence analysis of the genome of the unicellular cyanobacterium
Synechovystis sp. strain PCC6803. II. Sequence determination of the
entire genome and assignment of potential protein-coding regions."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Synechocystis sp. (strain PCC 6803).
Bacteria: Cyanobacteria; Chroccoccales;
NCBI_TaxID=1148;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Res. 3:109-136(1996).
FUNCTION: SYNTHESIS OF ALPHA-(+)-LIPOIC ACID.
IN THE SULFUR INSERTION CHEMISTRY IN LIPOATE
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PF02546; Lipoate_synth; 1.
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Pred. No. 1.8;
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., Sasamoto S., Kimura
Nakazaki N., Naruo K.,
Wada T., Watanabe A.,
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Alba H., Baba T., Fujita K., Hayashi K., Inada T., Isono K., Kasai H., Kashimoto K., Kimura S., Kitakawa M., Kitagawa M., Makino K., Miki T., Mizobuchi K., Mori H., Mori T., Motomura Nakade S., Nakamura Y., Nashimoto H., Nishio Y., Oshima T., Sampei G., Seki Y., Sivasundaram S., Tagami H., Takeda J., Takemoto K., Takeuchi Y., Wada C., Yamamoto Y., Horiuchi T., A 570-kb DNA sequence of the Escherichia coli K-12 genome
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16-CCT-2001 (Rel. 40, Last annotation update)
Phospho-2-dehydro-3-deoxyheptonate aldolase, Trp-sensitive
(BC 4.1.2.15) (Phospho-2-keto-3-deoxyheptonate aldolase) (DAHP
(SC 4.1.2.15) (3-deoxy-D-arabino-heptulosonate 7-phosphate synthase).
                                                                                                                                                                                                                                               Zurawski G., Gunsalus R.P., Brown K.D., Yanofsky G.;
"Structure and regulation of aroH, the structural gene
tryptophan-repressible 3-deoxy-D-arabino-heptulosonic
acid-7-phosphate synthetase of Escherichia coli.";
J. Mol. Biol. 145:47-73(1981).
-1- FUNCTION: STEREOSPECIFIC CONDENSATION OF PHOSPHOENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V., Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F., Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ray J.M., Yanofsky C., Bauerle R.; "Mutational analysis of the catalytic and feedback sites of the tryptophan-sensitive 3-decy-D-arabino-heptulosonate-7-phosphate synthase of Escherichia coli.";
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                                                                                   AND D-ERYTHROSE-4-PHOSPHATE (E4P) GIVING RISE TO 3-DEOXY-D-ARABINO-HEPTULOSONATE-7-PHOSPHATE (DAHP).

CATALYTIC ACTIVITY: 2-dehydro-3-deoxy-D-arabino-heptonate 7-phosphate + phosphate - phosphate - phosphate + D-erythrose 4-phosphate + H(2)O.

PATHMAY: FIRST STEP IN THE BIOSYNTHESIS OF CHORISMATE WITHIN THE BIOSYNTHESIS OF AROMATIC AMINO ACIDS (THE SHIKIMATE PATHWAY: FIRST STEP BARE 3 DAHP SYNTHASES, AROH IS

MISCELLANEOUS: THERE ARE 3 DAHP SYNTHASES, AROH IS

FEEDBACK-INHIBITED BY TRP. THE OTHER 2 DAHP SYNTHASES ARE TY
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P76055; Q47558;

01-NOV-1997 (Rel. 35, Created)

01-NOV-1997 (Rel. 35, Last sequence update)

'6-OCT-2001 (Rel. 40, Last annotation update)
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EMBL; D90813; BAA15473.1; --
EMBL; V00261; CAA23310.1; --
EMBL; X04373; CAA27956.1; --
EMBL; X04373; CAA27956.1; --
PTR; J01131; ADECH
HSSP; P00886; 1QR7.
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         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation between the Swiss Institute. There are no restrictions on its
                                                                                                                                                                                         MEDLINE-97426617; PubMed-9278503;
Blattner F.R., Plunkett G. III, Bloch C.A.,
Riley M., Collado-Vides J., Glasner J.D., Rc
Gregor J., Davis N.W., Kirkpatrick H.A., Goo
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                                                  regulation of their expressions: an applicable pranalysis of other microorganisms.", Biosci. Biothenhol. Biothen. 58:117-120(1994).
-i- SIMILARITY: STRONG, TO H.INFLUENZAE HI1371.1.
                                                                                                         SEQUENCE OF 1-40 FROM N.A.
STRAIN=K12 / W3110;
MEDLINE=94162733; PLUMEd=7764507;
Yamada M., Yanai S., Talkuder A.;
                                                                                            Yamada M., Yanai S., Talkuder A.;
"Analysis of products of the Escherichia
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Complete sequence and gene organization of the genome of a hyper-thermophilic archaebacterium, Pyrococcus horikoshii OT3."; DNA Res. 5:55-76(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kawarzbayasi Y. Sawada M., Horikawa H., Haikwaa Y., Hino Y., Yamamoto S., Sekine M., Baba S.-I., Kosugi H., Hosoyama A., N Sakai M., Ogura K., Otsuka R., Nakazawa H., Takamiya M., Ohtu Funahashi T., Tanaka T., Kudoh Y., Yamazaki J., Kushida N., O Aoki K.-I., Yoshizawa T., Nakamura Y., Robb F.T., Horikoshi K. Masuchi Y., Shizuya H., Kikuchi H.;
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30-MAY-2000
                                                                        TRANSMEM
                                                                                                                                                                                 Complete
                                                                                                                                                                                                     Hypothetical
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Archaea; Euryarchaeota; Thermococcales; Thermococcaceae; Pyrococcus.NCBI_TaxID=53953;
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                                                                                                                                                                                                                                                  InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=98344137; PubMed=9679194;
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InterPro; IPR000541; UPF0021.
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nes 8; Conser
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, Ohfuku Y.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cal H., Kraetzschmar J., Alfandari D., Hunnicutt G., Blobel C.P.; "Neural crest-specific and general expression of distinct metalloprotease-disintegrins in early Xenopus laevis development.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last sequence update)
ADAM 22 precursor (A disintegrin and metalloproteinase (Metalloprotease-disintegrin MDC111b) (MDC11.2).
ADAM22 OR MDC11B.
                                                                                                                                                                                 the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and ic entitles requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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                                                                                      EMBL; AF032383; AAC61847.1;
EMBL; U78188; AAB87148.1;
HSSP; P18619; IFVL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 464-511 FROM N.A.
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                      Interpro;
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SIMILARITY: CONTAINS 1 EGF-LIKE DOMAIN.
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SIMILARITY: BELONGS
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     IPR002870;
IPR001590;
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  HIFA_MOUSE
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Best Local S
Matches 11
                                      STRAINCE TRISSUE-Hepatocytes;
STRAINC5751L/6; TISSUE-Hepatocytes;
MEDLINE-96355491; pubMed-8702901;
Li H., Ko H.P., Whitlock J.P. Jr.;
"Induction of phosphoglycerate kinase 1
Roles of Arnt and H.Flalpha.";
J. Biol. Chem. 271:21262-21267(1996).
[2]
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DISULFID
DISULFID
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CARBOHYD
CARBOHYD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ProDom; PD000664; DISIN;
SMART; SM00050; DISIN;
SMART; SM00181; EGF; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00200; disintegrin; 1. Pfam; PF01562; Pep_M12B_propep; Pfam; PF01421; Reprolysin; 1.
                                                                                                                                                                                                                                                                                                                                               HIFA_MOUSE STANDARD; PRT; 822 AA. 061221; 061665; 001664; 008993; 008741; 01-NOV-1997 (Rel. 35, Created) 15-DEC-1998 (Rel. 37, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) 16-OCT-1001 (Rel. 40, Last annotation update) 16-OCT-1010 (Rel. 40, Last annotation update)
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CARBOHYD
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DOMAIN
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SIGNAL 1 2
PROPEP 25 22
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ProDom; PD000664; Disintegrin;
                                                                                                                                                   CTRAIN=C57BL/6; TISSUE=Hepatocytes;
CTRAIN=C57BL/6; TISSUE=Hepatocytes;
                                                                                                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10090;
SEQUENCE FROM N.A
STRAIN-129/SVJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
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                                                                                                                                                                                                                                                                                                                             protein).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CQYIKANSKFIGITEFGFPEHLLVDFLQSLS 31
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PS50214;
PS00022;
PS01186;
PS00142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 35.
[1; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PS50215;
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ZINC_PROTEASE; F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADAM_MEPRO; 1.
DISINTEGRIN_1;
DISINTEGRIN_2;
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695
701
712
712
167
210
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609
636
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Rodentia;
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BY SIMILARITY.
BY SIMILARITY.
VALUE OF CHARMED GLONA
N-LINKED GLONA
N-LINKED GLONA
N-LINKED GLONA
N-LINKED GLONA
N-LINKED GLONA
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Pred. No. 17;
5; Mismatches
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BY SIMILAR
BY SIMILAR
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EGF-LIKE.
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METALLOPROTEASE-LIKE.
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                                                                                                                                                                                                                                              Cranista; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
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(POTENTIAL)
(POTENTIAL)
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RL SUBMITTEED (JAN-1996) to the EMBL/GENBANK/DD5J databases.

RL Submitteed (JAN-1996) to the EMBL/GENBANK/DD5J databases.

CC -!- FUNCTION: INVOLVED IN THE INDUCTION OF OXYGEN REGULATED GENES.

CC -!- SUBUNIT: EFFICIENT DNA BINDING REQUIRES DIMERIZATION WITH ANOTHER

CC SUBUNIT: EFFICIENT DNA BINDING REQUIRES DIMERIZATION WITH ANOTHER

CC THE ALPHA SUBUNIT IS UNIQUE TO HIF-1 WHEREAS HIF-1 BETA (ARWT) CAN

CC THE ALPHA SUBUNIT IS UNIQUE TO HIF-1 WHEREAS HIF-1 BETA (ARWT) CAN

CC THE ALPHA SUBUNIT IS UNIQUE TO HIF-1 WHEREAS HIF-1 BETA (ARWT) CAN

CC THE ALPHA SUBUNIT IS UNIQUE TO HIF-1 WHEREAS HIF-1 BETA (ARWT) CAN

CC THE ALPHA SUBUNIT IS UNIQUE TO HIF-1 WHEREAS HIF-1 BETA (ARWT) CAN

CC THE ALPHA SUBUNIT IS UNIQUE TO HIF-1 WHEREAS HIF-1 BETA (ARWT) CAN

CC THE SUBCLIPICATE OF THE BASIC HEATHALP ARTICLE FOR THE HYPOXIA RESPONSITENESS AND TRANSACTIVATION CAPABILITY

CC -!- PTM: REQUIRES PHOSPHORYLATION FOR DNA-BINDING.

CC -!- SIMILARITY: BELONGS TO THE BASIC HELIX-LOOP-HELIX (BHLH) FAMILY OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-98034461;
Luo G., Gu Y.-Z.,
Bradfield C.A.;
"Molecular charact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wenger R.H., Rolfs A., Marti H.H., Warner and Nucleotide sequence, chromosomal assignment and mouse hypoxia-inducible factor-1 alpha.";

- ***Tanhara Res. Commun. 223:54-59(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           organization, expression and characterization exon and 5' flanking sequence."; Eur. J. Blochem. 246:155-165(1997).
                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-Hepatocytes;
O'Rourke J.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Hepatocytes;
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Gassmann M.;
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                   EMBL;
EMBL;
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EMBL;
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L; Y09085; CAA70306.1;
L; Y13556; CAA70306.1;
JOINED.
L; Y13556; CAA70305.1;
L; Y09085; CAA70305.1;
L; AF004145; AAC53461.1; JOINED.
L; AF004142; AAC53461.1; JOINED.
L; AF004143; AAC53461.1; JOINED.
L; AF004144; AAC53461.1; JOINED.
L; AF004145; AAC53461.1; JOINED.
L; AF004146; AAC53461.1; JOINED.
L; AF004147; AAC53461.1; JOINED.
L; AF004148; AAC53461.1; JOINED.
L; AF004149; AAC53461.1; JOINED.
L; AF004159; AAC53461.1; JOINED.
L; AF004159; AAC53461.1; JOINED.
L; AF004151; AAC53461.1; JOINED.
L; AF004152; AAC53461.1; JOINED.
L; AF004153; AAC53461.1; JOINED.
L; AF004153; AAC53461.1; JOINED.
L; AF004154; AAC53461.1; JOINED.
L; AF004153; AAC53461.1; JOINED.
L; AF004154; AAC53461.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TRANSCRIPTION FACTORS.
TRANSCRIPTIC FACTORS.
SIMILARITY: CONTAINS 2 PAS (PER-ARNT-SIM) DIMERIZATION DOMAINS
SIMILARITY: CONTAINS 1 PAS-ASSOCIATED C-TERMINAL (PAC) DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ecular characterization of the murine Expr. 6:287-299(1997).
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                                                                                                                                                                                                                                                                                                                        AF003695;
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s A., Marti H.H.,
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mRNA express
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RESULT 13
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Best Local
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SMART; SM00353; HLH; 1
SMART; SM00086; PAC; 1
SMART; SM00091; PAS; 2
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DOMAIN
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InterPro;
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superfamily that interacts with components pathway.";
J. Biol. Chem. 272:8581-8593/10^~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
DOMAIN
                                                                                                                                                                                                                                                   HIFA_HUMAN STANDARD; PRT; 826 AA. Q1665; Q1665; Q1-NOV-1997 (Rel. 35, Created) 01-NOV-1997 (Rel. 35, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) Hypoxia-inducible factor 1 alpha (HIF-1 alpha) protein) (Member of PAS protein 1) (MOP1) (HIF1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS00038; HELIX_LOOP_HELIX; PROSITE; PS50112; PAS; 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Repeat;
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                                                                                                                                                                                                                     Homo sapiens (Human)
Eukaryota; Metazoa;
                                           Hogenesch J.B., Chan W.K., Jackiw V.H., Brown R.C., Gu Y.-Z., Pray-Grant M., Perdew G.H., Bradfield C.A., "Characterization of a subset of the basic-helix-loop-helix-PAS"
                                                                           TISSUE=Hepatoma;
MEDLINE~97236817;
                                                                                                  SEQUENCE FROM
                                                                                                                       Proc.
                                                                                                                                  heterodimer
                                                                                                                                                                 SEQUENCE FROM N.A.,
MEDLINE=95296340; P
                                                                                                                                                                                                                                            HIF1A.
                                                                                                                      SEQUENCE FROM N.A., AND SEQUENCE OF 166-170; 259-289 AND 77: MEDLINE-95296340; PubMed-7539918; MEDLINE-95296340; PubMed-7539918; Mang G.L.; Jiang B.-H., Rue E.A., Semenza G.L.; Mang B.-H., Rue E.A., Semenza G.L.; Mediator I is a basic-helix-loop-helix-PAS heterodimer regulated by cellular O2 tension."; Proc. Natl. Acad. Sci. U.S.A. 92:5510-5514(1995).
                                                                                                                                                                                                NCBI_TaxID=9606;
                                                                                                                                                                                                             Mammalia; Eutheria;
                                                                                                           [2]
                                                                                                                                                                                                                                                                                                                                                                        111 YISDNVNKYMGLTQFELAGHSVFDF
                                                                                                                                                                                                                                                                                                                                                                                                                                       Match
                                                                                                                                                                                                                                                                                                                                                                                            3 YIKAN-SKFIGITEFGFPEHLLVDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MGT:106918; Hifla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           x95580;
x95002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PF00785; PAC; PF00989; PAS;
                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
10; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; IPR003015; HLH_Myc.; IPR001092; HLH_dim.; IPR0011321; HypoxindFlA.; IPR001610; PAC.; IPR001014; PAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Phosphory1:
17
31
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80
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302
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302
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686
                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAA64833.1;
CAA64458.1;
                                                                                                 N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HYPOXIAIFIA
                                                                              PubMed-9079689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          298
345
31
128
128
351
511
586
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71
155
                                                                                                                                                                                                            Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        91858
                                                                                                                                                                                                                       Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                            40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lation
                                                                                                                                                                                                                                                                                                                                                                                                                            .0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Œ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAS 2.

PAC.

S -> T (IN REF. 1).

S -> T (IN REF. 1).

I -> L (IN REF. 1).

E -> ERLLQENVNTPNFSQ (IN RIF. 4).

K -> N (IN REF. 4).

B -> V (IN REF. 4).
                                                                                                                                                                                                                                                                                                                                                                                                                  Score 48.5; D
Pred. No. 17;
6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASIC DOMAIN.
HELIX-LOOP-HELIX
                                                                                                                                                                                                             Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                               26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Transcription
                                                                                                                                                                                                                                                                                                                                                                                                                                          ВB
                                     of the
                                                                                                                                                                                                                                                                                                                                                                                                                                          ŗ
                                                                                                                                                                             259-289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOTIF
                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                        (ARNT interacting alpha).
                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                     dioxin signaling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 regulation;
                                                                                                                                                                                                                         Euteleostomi;
                                                                                                                                                                                                              Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                           822;
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RESULT 14
PYRC_SERMA
ID PYRC_S
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Best Local S
Matches 10
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EMBL; U29165; AAC51210.1; --
EMBL; AF207601; AAF20139.1; --
EMBL; AF207602; AAF20140.1; --
EMBL; AF208487; AAF20149.1; --
TRANSFAC, T01610; --
MIN; 603348; --
MIN; 603348; --
                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00785; PAC; 1.
Pfam; PF00989; PAS; 2.
PRINTS; PR01080; HYPOXIAIFIA.
SMART; SM00085; HLH; 1.
SMART; SM00086; PAC; 1.
SMART; SM00091; PAS; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

"HIFIA sequence in the Quechua, a high altitude population.";

"HIFIA sequence in the Quechua, a high altitude population.";

Submitted (NOV-1999) to the EMBL/GenBank/DDBJ databases.

-I- FUNCTION: INVOLVED IN THE INDUCTION OF OXYGEN REGULATED GENES.

-I- SUBCIFICALLY RECOGNIZES AN 8 BP HYPOXIA RESPONSE ELEMENT (HRE).

SPECIFICALLY RECOGNIZES AN BUDING REQUIRES DIMERIZATION WITH ANOTHER BHLH PROTEIN. HETERODIMER OF AN ALPHA AND A BETA (ARNT) SUBUNITS.

THE ALPHA SUBUNIT IS UNIQUE TO HIF-1 WHEREAS HIF-1 BETA (ARNT) CAN

THE ALPHA SUBUNIT IS UNIQUE TO HIF-1 WHEREAS HIF-1 BETA (ARNT) CAN

THE ALPHA SUBUNIT IS UNIQUE TO HIF-1 WHEREAS HIF-1 BETA (ARNT) CAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ++
                                                                                                                                                                                                                                                                                                                                                              PROSITE: PS00038; HELI)
PROSITE: PS50112; PAS;
Repeat: DNA-binding: No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR001321; HypoxindF1A.
InterPro; IPR001610; PAC.
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 PYRC_SERMA
                                                                                                                                                                                                                                   SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -
                                                                                                                                                                                                                                                                                                                                    DNA_BIND
                                                                                                                                                                                                                                                                                                                                                 Activator;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000014; PAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR003015; HLH_Myc.
InterPro; IPR001092; HLH_dim.
                                                                                  111 YISDNVNKYMGLTQFELTGHSVFDF 135
                                                                                                                 3 YIKAN-SKFIGITEFGFPEHLLVDF 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: BELONGS TO THE BASIC HELIX-LOOP-HELIX (BHLH) FAMILY TRANSCRIPTION FACTORS.
SIMILARITY: CONTAINS 2 PAS (PER-ARNT-SIM) DIMERIZATION DOMAINS.
SIMILARITY: CONTAINS 1 PAS-ASSOCIATED C-TERMINAL (FAC) DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN: BOTH HYPOXIA RESPONSIVENESS AND TRANSACTIVATION CAPABILITY RESIDE WITHIN THE C-TERMINAL PART.

PTM: REQUIRES PHOSPHORYLATION FOR DNA-BINDING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DIMERIZE WITH OTHER BHLH-PAS PROTEINS. INTERACTS WITH HSP90.
SUBCELLULAR LOCATION: Nuclear (Potential).
TISSUE SPECIFICITY: EXPRESSED IN MOST TISSUES. HIGHEST LEYELS IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KIDNEY AND HEART.
INDUCTION: UNDER REDUCED OXYGEN TENSION
                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                               ; Phosphorylation.

17

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85

158

228

228

228

228

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245

302

345
                                                                                                                                                                                                                              615
826
                                                                                                                                                  Conservative
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 STANDARD
                                                                                                                                                                                                                                                                                                                                                                                                   HELIX
                                                                                                                                                               29.98;
                                                                                                                                                                                                                                 92670 MW;
                                                                                                                                                                                                                                                                                                                                                                Nuclear protein; Transcription regulation,
                                                                                                                                                                                                                                                                                                                                                                                                 _LOOP_HELIX;
                                                                                                                                             5.
                                                                                                                                                                                                                                                                 HELIX-LOOP-HELIX I
PAS 1.
PAS 2.
PAC.
                                                                                                                                                                   Pred. No.
                                                                                                                                                                                  Score 48.5;
                                                                                                                                                                                                                                                    POLY-THR
                                                                                                                                                                                                                                                                                                                                   BASIC DOMAIN
 PRT
                                                                                                                                                                                                                                   ABD4F7DAA135BE2D CRC64;
                                                                                                                                                 Mismatches
 204
                                                                                                                                                                     17;
 A
                                                                                                                                                                                  DB
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89
                                                                                                                                                                                Length 826;
                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                    (BY SIMILARITY)
                                                                                                                                                  ۲,
                                                                                                                                                  Gaps
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LDHD_HAEIN

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AC P45295

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DT 01-NOV
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OC Haemog
OC Haemog
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RA MCKEN
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9S3S1;
16-OCT-2001
16-OCT-2001
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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SEQUENCE FROM N.A.

STRAIN-RD / KR20 / ATCC 51907;

MEDLINE-95350630; PubMed-7542800;

Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F.,

Fleischmann R.D., Adams M.D., White O., Clayton R.A., Merrick J.M.,

Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M.,

McKenney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D.,

McKenney K., Shirley R., Liu L.-I., Glodek A., Kelley J.M.,
                                                                                                                                                                                                                                                                                                                                                        01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
D-lactate dehydrogenase (EC 1.1.1.28).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LDHD_HAEIN
P45295;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AF175466; AAD50307.1; ALT_INIT.
INTECTPO; IPRO1219; DINYDROOROTASE, 1; P.
PROSITE; PS00482; DIHYDROOROTASE_1; P.
PROSITE; PS00483; DIHYDROOROTASE_2; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ÷
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-SM6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID-615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Serratia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Serratia marcescens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dihydroorotase
                                                                                                                                                                                                                                                           Haemophilus
                                                                                                                                                                                                                                                                               Bacteria; Proteobacteria; gamma subdivision; Pasteurellaceae;
                                                                                                                                                                                                                                                                                                         Haemophilus influenzae
                                                                                                                                                                                                                                                                                                                                      DLD OR HI1649
                                                                                                                                                                                                                              NCBI_TaxID-727;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 OYIKANSKFIGITEFGFPEHLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ASPACIANT: THIS ENZYME TIGHTLY BINDS ONE ZINC ATOM PER CHAIN WHICH IS REQUIRED FOR THE CATALYTIC MECHANISM. IT ALSO BINDS WEARLY TO TWO OTHERS ZINCS WHICH ARE NOT ESSENTIAL FOR ACTIVITY (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBUNIT: HOMODIMER (BY SIMILARITY).
SIMILARITY: BELONGS TO THE DHOASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PATHWAY: THIRD STEP IN PYRIMIDINE BIOSYNTHESIS SUBUNIT: HOMODIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (Rel.
(Rel.
(Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                204 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Benedik M.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . 40,
. 40,
. 40,
. 3.5.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Last : 5.2.3)
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Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          annotation update) (DHOase) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 48; DB
Pred. No. 4.7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9DB0B6C9B834B310 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Zinc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PARTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             564
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBFAMILY 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 204
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Search completed: June 18, 2002, 08:13:10 Job time: 369 sec
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Best Local Similarity 39.3
Matches 11; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Weidman J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D., Utterbek T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R.C., Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M., Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; U32838; AAC23296.1; -. HSSP; P06149; 1F0X. TIGR; HI1649; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -i- CATALYTIC ACTIVITY: (R)-lactate + NAD(+) = pyruvate + NADH.
-i- COFACTOR: FAD.
-i- SUBCELLULAR LOCATION: MEMBRANE BOUND LOCATED AT THE INNER FACE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Science 269:496-512(1995).

-!- FUNCTION: FIRST COMPONENT OF THE MEMBRANE-BOUND D-LACTATE OXIDASE,
-!- FUNCTION: FIRST COMPONENT OF THE MEMBRANE-BOUND D-LACTATE OXIDASE,
-!- FUNCTION: FIRST COMPONENT OF THE MEMBRANE OF THE ENERGIZATION OF
THE ACTIVE TRANSPORT OF A VARIETY OF SUGARS AND AMINO ACIDS
(BY SIMILARITY).

(BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wenter J.C.;
"Whole-genome random sequencing and assembly of Haemophilus influenzae Rd.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR001575; Oxid_FAD_bind.
Pfam; PF01565; FAD_binding_4: 1.
Oxidoreductase; NAD; Flavoprotein; FAD; Membrane; Complete proteome.
SEQUENCE 564 AA; 64126 MW; D1211B2D3D5C6418 CRC64;
                                                                                                                                                                                             337 LKSNVDRIGKKFFFLPQHLSDKFMQTVS 364
                                                                                                                                                                                                                                                          4 IKANSKFIGITEFGFPEHLLVDFLQSLS 31
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(9p388 neurospora Q9y97 melanopius O97he3 clostridium O914c6 pseudomonas O9ytk4 ateline her (9s3g9 porphyromon O58223 pyrococcus
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Q9BG59
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Best Local Similarity 88.

Matches 15; Conservative
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Q9BG59;
01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
CHOLESTERYL ESTER TRANSFER PROTEIN (FRAMENT).
Tupala glis (Tree shrew).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Zeng W.W., Chen B.S., Zhang J.;
"Cloning and sequencing of tree shrew cholesteryl ester transfer protein (CETP) clnA.";
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AF334033; AAK08096.1; -.
InterPro, IPR001124; LBP_BPI_CETP.
Pfam; PF01273; LBP_BPI_CETP.
Pfam; PF02886; LBP_BPI_CETP.2; 1.
SMART; SM00328; BPI; 1.
SMART; SM00329; BPI; 1.
                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE 485 AA;
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Mammalia; Eutheria; Scandentia; Tupalidae; Tupala.
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NON_TER 1 1
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469 DFGFPEHLPVDFLQSLS 485
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                                                      EFGFPEHLLVDFLQSLS
                                                                                                                                                                                                                                                                                                                                                                             53993 MW; 2605E76D2635C367 CRC64;
                                                                                                                                                                                                      48.1%;
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Pred. No. 0.0026;
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Q93N27;
01-DEC-2001 (TrembLrel 19, C
01-DEC-2001 (TrembLrel 19, L
01-DEC-2001 (TrembLrel 19, L
TETANUS TOXIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-BRISTON
STRAIN-BRISTON
Gattung S., Holmes A.;
Gattung S., Hol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  044506 PRELIMINARY; PRT; 458 AA. 044506; 01-JUN-1998 (TrEMBLrel. 06, Created) 01-JUN-1998 (TrEMBLrel. 06, Last sequence update) 01-DEC-2001 (TrEMBLrel. 19, Last annotation update) HYPOTHETICAL 51.1 KDA PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. STRAIN-BRISTOL N2; MEDLINE-99069613;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
Shumin 2., Dianliang L.;
Shumin 2., Dianliang L.;
Shumin 2., Dianliang L.;
Coloning and sequence analysis
Submitted (JUN-2001) to the EMB
EMBL; AF389424; AAK72964.2; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Science [2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Nematoda; Rhabditidae; Peloderinae; Caei NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Clostridium tetani.
Bacteria; Firmicutes; Bacillus/Clostridium group; Clostridiaceae;
Clostridium.
                                                                                                                                                                                                                                   Submitted (SEP-2001) to the EMBL; AF038618; AAB92068.1; Hypothetical protein. SEQUENCE 458 AA; 51070 My
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted
[3]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
STRAIN-BRISTOL N2;
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                                                                                                                                                                                                                                                                                                                                                                                                       "Direct Submission.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                Waterston R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
STRAIN-BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Genome sequence of the nematode C. elinvestigating biology. The C. elegans Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    None;
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Caenorhabditis.
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Pred. No. 4;
6; Mismatches
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EMBL/GenBank/DDBJ
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EMBL/GenBank/DDBJ
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Pred. No.
                                                                                                                                                                                                                                   9F4DF23D8CDAEBD5
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                                                                                                        Length 458;
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RESULT
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                                                                                  ACCOMPAND DESCRIPTION OF THE PROPERTY OF THE P
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Q12601;
                                                                                                                                                                                                                                                                                                                                                                                                                  Q9CN39;
01-JUN-2001 (TrEMBLrel. 17,
01-JUN-2001 (TrEMBLrel. 17,
01-DEC-2001 (TrEMBLrel. 19,
                                                                                Hypothetical SEQUENCE 3:
                                                                                                                    May B.J., Zhang Q., Li L.L., Paustian M.L., Whittam "Complete genomic sequence of Pasteurella multocida Proc. Natl. Acad. Sci. U.S.A. 98:3460-3465(2001). EMBL, AE006096; AAK02690.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR001360; Glyco_hydro_1.
pfam; pF00232; Glyco_hydro_1; 3.
Signal; Hydrolase; Glycosidase.
SignaL 1 21
POTENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Fungi; Ascomycota;
Saccharomycetales; mitosporic
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                                                                                                                                                                                                         MEDLINE-21145866; PubMed-11248100;
                                                                                                                                                                                                                                 STRAIN-PM70;
                                                                                                                                                                                                                                                                                                               Pasteurella
                                                                                                                                                                                                                                                                                                                                 Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                        Pasteurella multocida
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN-CAPRIOTTI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID-35521;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Candida wickerhamii.
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                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         510
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609 ‡
                                                                                314 AA; 36080 MW;
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19,
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Last annotation update)
(EC 3.2.1.21).
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Pred. No. 5.5;
1; Mismatches
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Last annotation updat
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9C5624E3D3F1734E
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3C0EA33486CF62ED
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RESULTATION OF THE PROPERTY OF
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01-DEC-2001 (TrEMBLrel. 1
01-DEC-2001 (TrEMBLrel. 1
01-DEC-2001 (TrEMBLrel. 1
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Q9KS29;
01-OCT-2000
01-OCT-2000
01-DEC-2001
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STRAIN-EL TOR N1961 / SEROTYPE O1:

STRAIN-EL TOR N1961 / SEROTYPE O1:

MEDLINE-20406833; PubMed-10952301;

Heidelberg J.F., Eisen J.A., Nelson W.C., Clayton R.A., Gwinn M.L.,

Dodson R.J., Haft D.H., Hickey E.K., Peterson J.D., Umayam L.A.,

Gill S.R., Nelson K.E., Read T.D., Tettelin H., Richardson D.,

Gill S.R., Nelson K.E., Read T.D., Tettelin H., Dragoi I., Sellers P.,

Ermolaeva M.D., Vamathevan J., Bass S., Qin H., Dragoi I., Sellers P.,

McDonald L., Utterback T., Fleischmann R.D., Nierman W.C., White O.,

Salzberg S.L., Smith H.O., Colwell R.R., Mekalanos J.J., Venter J.C.,

Fraser C.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                      STRAIN-TOSPO-MELO;
Kato K., Hanada K.;
*Characterization of the S RNA segment of melon yellov:
*Characterization of the EMBL/GenBank/DDBJ databases
Submilted (FEB-2000) to the EMBL/GenBank/DDBJ databases
EMBL; AB038343; BBB18310.1;
*SEQUENCE 469 AA; 53117 MW; 1B0BA052FC0D769B CRC64:
                                                                                                                                                                                                                                                                                             melon yellow spot virus.
Viruses; ssRNA negative-strand
                                                                                                                                                                                                                                                                                                                                           NSS.
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EMBL; AE004222; AAF94589.1;
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                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                           NCBI_TaxID=89471;
                                                                                                                                                                                                                                                                                                                                                             NONSTRUCTURAL
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    . Similarity 35. 12; Conservative
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0 (TrEMBLIEL. 15, 1
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Pred. No.
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RELATED TO SMALL)
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01-MAY-2000 (TrEMBLrel. 13, Cre
01-MAY-2000 (TrEMBLrel. 13, La:
01-JUN-2001 (TrEMBLrel. 17, La:
HIF1-ALPHA PROTEIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cavia porcellus (Guinea pig).
Eukaryota; Metazoa: Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                       Neurospora crassa.
Eukaryota; Fungi; Ascomycota;
Sordariales; Sordariaceae; Ne
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Submitted (SEP-1999) to the EMBL/GenBank/DDBJ
EMBL: AF193574; AF64124.1; .
InterPro; IPR001092; HLH_dim.
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SEQUENCE FROM N.A.
T. Aign V.,
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                                               German Neurospora genome project;
Submitted (JUL-2000) to the EMBL/
EMBL, AL390354; CAB99388.1; -.
SEQUENCE 1071 AA; 120743 MW;
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Submitted
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I G., Mewes I
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ilarity 40.7%;
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H.W., Mannhaupt G.;
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4; Mismatche
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Pred. No. 3.1;
6; Mismatches
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Mismatches
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Best Loc
Matches
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01-OCT-2001
01-OCT-2001
01-OCT-2001
    SEQUENCE
SEQUENCE
                                        Moelling J., Breton G., Omelchenko M.V., M Glbson R., Lee H.M., Dubois J., Qiu D., Hi Tatusov R.L., Sabathe F., Doucette-Stamm L Bennett G.N., Koonin E.V., Smith D.R.; "Genome sequence and comparative analysis bacterium Clostridium acetobutylicum."; J. Bacteriol. 183:4823-4838(2001).
EMBL; AE007709; AAK80027.1;
                                                                                                                                                                                                             SEQUENCE FROM N.A.
STRAIN-ARCC 824 / DSM 792 / VKM B-
MEDLINE-21359325; Pubmed-11466286;
MEDLINE-21359325; Pubmed-11466286;
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Q9YW77;
Q9YW77;
Q9YW77;
Q1-MAY-1999 (TrEMBLrel. 10, Created)
Q1-MAY-1999 (TrEMBLrel. 10, Last sequence update)
Q1-MAY-2001 (TrEMBLrel. 16, Last nonotation update)
QR MSY015 LEUCINE RICH REPEAT GENE FAMILY PROTEIN, SIMILAR
MOOREI ENTOMOPOXYIRUS Q3 ORF SW:P2AASA
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Clostridium acetobutylicum
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Melanoplus sanguinipes
Viruses; dsDNA viruses,
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, no RNA stage; Poxviridae;
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Pred. No. 15;
3; Mismatches
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ED6B010D6AD3C895 CRC64;
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X Stover C.K. pham X.-O.T. Erwin A.L., Mizoguchi S.D., Warrener P. A. Hickey M.J., Erlokman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou A. Hickey M.J., Erlokman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou A. Brody L.L., Goltry L., Tolentino E., Westbrock-Wadman S., Yuan Y. A. Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M. A. Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T., A. Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T., A. Reizer J., Saier M.H., Hancock R.E.W., Lory S., Olson M.V.;

"Complete genome sequence of Pseudomonas aeruginosa PAO1, an Opportunistic pathogen.";

"Complete genome sequence of Pseudomonas aeruginosa PAO1, an Topportunistic pathogen.";

REMBL, ABO04549; AAG04581.1; -.

REMBL, ABO04549; AAG04581.1; -.

R Pfan; PPO171; DPP0021; D. R. EMBL; PP0171; DPP0171; DPP0171
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01-NOV-1999
01-DEC-2001
        MEDLINE-21213458; PubMed=11315637; Cortes I., Saaijer J., Wongjkaew K.S. Peters D., Kormelink R.; "Identification and characterization using a new RT-PCR approach."; Arch. Virol. 146:265-278(2001).
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01-MAR-2001
01-OCT-2001
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                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                             Viruses; ssRNA negative-strand viruses; NCBI_TaxID=77028;
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| L PROTEIN PAI192.
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274 AA; 31260 MW;
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                                                                            PubMed=11315637;
r J., Wongjkaew K.S.,
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Q9S3Q9;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-DEC-2001 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
17MAUNOREACTIVE 87KD ANTIGEN PG92.
POrphyromonas gingivalis (Bacteroides gingivalis).
Bacteria; CFB group; Bacteroidetes; Bacteroidales; Porphyromonadaceae;
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                                                   STRAIN-W50:
STRAIN-W50:
Ross B.C., Barr I., Patterson M., Agius C., Rothel L., Margetts M.,
Hocking D., Webb E.;
"Porphyromonas gingivalis polypeptides and nucleic acids.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF175724; AAD51077.1; -.
EMBL; AF175724; AAD51077.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Albrecht J.-C., Fleckenstein B.;
Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases
EMBL; AF083424; AAC95587.1; -.
SEQUENCE 899 AA; 103389 MW; 19440A7944DE2531 CRC64;
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Viruses; dsDNA viruses, no RNA st
Gammaherpesvirinae; Rhadinovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-20091363; PubMed-10623770; Albrecht J.C.; "Primary structure of the Herpesvirus J. Virol. 74:1033-1037(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gammaherpesvirinae;
NCBI_TaxID=85618;
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7; Mismatc
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Best Local Similarity 50.0%; Pred. No. 56;
Matches 11; Conservative 5; Mismatches 3; Indels 3; Gaps
Oy 13 ITEFGFPE---HLLVDFLQSLS 31
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Search completed: June 18, 2002, 08:12:52 Job time: 376 sec

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(without alignments)
66.627 Million cell updates/sec
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Gapop 10.0 , Gapext 0.5
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Copyright (c) 1993 - 2000
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Fusion of a tetanu
Anti-cholesteryl e
Anti-cholesteryl e
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Rabbit CETP immuno
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AAY91239	AAY91238	AAY02467	AAW46445	AAW06133	AAY02468	AAY91241	AAY91240	AAY91231	AAY13802	AAY13809	AAY92643	AAY92636	AAY92635	AAY92634	AAY92633	AAY92632	AAY92631	AAY91229	AAB45490	AAY91237	AAY91235	AAB45501	AAY91234	AAY02469	AAG65636	AAY49568	AAY49556	AAR60342	AAY02466	AAW46446	$\sim$	912	AAY91232
Modified MVF Th ep	Modified MVF Th ep	noles	Mature rabbit chol	Rabbit cholesteryl	Modified rabbit ch	MVF The	Modified MVF Th ep	cholest	Rabbit CETP immuno	Rabbit CETP immuno	Þ	Mutant human prost	Human cholesteryl	Modified human int	ied MVF Th	Modified MVF Th ep	murine	MVF The	Humanised rabbit c	Human cholesterol	Human cholesteryl	Human cholesteryl	Partial human Lipi	Human cholesteryl	Human mature chole		led MVF The	modified MVF Th ep					

## ALIGNMENTS

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RESULT
AAW06129
NAXX A CARACTER A CARA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Anti-cholesteryl ester transfer peptide vaccine
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01-MAY-1996;
                                                                             07-NOV-1996
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96WO-US06147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "C-terminal Cys residue is present for use
in linking the peptide to itself or other
molecules"
                                                                                                                                                                                                                                                                                                                                                                         16..31
                                                                                                                                                                                                                                                                                                                                                                                                              /label= T-cell_epitope
/note= "T-cell epitope comprises amino aci
830-843 of tetanus toxoid protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                           /label•

    B-cell_epitope
    "B-cell epitope comprises the C-terminal 16 amino acids of human CETP (Claim 5)"

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Best Local
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  The specification describes a vaccine that promotes the production antibodies that bind endogenous cholesteryl ester transfer protein
                                                                            Disclosure;
                                                                                                                                                                                     WPI; 1999-302645/25
                                                                                                                                                                                                                                                                                                                                                                                                                                                     29-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                high-density lipoprotein-associated cholesterol; metabolism; low-density lipoprotein-associated cholesterol; atherosclerotic lesion; cholesterol; atherosclerosis; heart disease.
                                                                                                                                                                                                                                                                                                                                               20-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                               20-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9920302-A1
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                                                                                                                                                                                                                                                                                         (AVAN-) AVANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Vaccine; antibody; endogenous; cholesteryl ester transfer protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fusion of a tetanus toxoid fragment and C-terminal of human CETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-JUL-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8; Page 41-42;
                                                                                                                            against cholesteryl ester transfer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  standard;
                                                                                                                                                                                                                                        CM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u>11</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      used to generate vaccine to regulate CETP activity f the risk of developing a cardiovascular disease e.g.
                                                                            Page 55; 61pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                         IMMUNOTHERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A
                                                                                                                                                                                                                                                                                                                                            97US-0954643
                                                                                                                                                                                                                                                                                                                                                                                               98WO-US22145
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95US-0432483
                                                                                                                                                                                                                                      Thomas
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            72pp; English.
                                                                            English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 162; DB 17;
Pred. No. 4.6e-18;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                         INC
                                                                                                                            protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CETP activity for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
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endogenous

cholesteryl

ester transfer

protein

O.F

Cholesteryl ester transfer protein B cell epitope linked to  ${\tt T}$  cell epitope - used to generate vaccine to regulate CETP activity for decreasing the risk of developing a cardiovascular disease e.g.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
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Best Local
                                                                                                                                                  07-NOV-1996,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (CETP). The vaccines (and equivalent plasmid-based vaccines) are used to increase the ratio of circulating high-density lipoprotein (HDL)-associated cholesterol to low-density lipoprotein (LDL)-associated cholesterol; to decrease the level of endogenous CETP activity in humans or other animals; to alter metabolism of LDL-associated cholesterol, for inhibiting development of atherosclerotic lesions; to lower circulating levels of LDL and total cholesterol; and to treat or prevent atherosclerosis (or more generally heart disease). The present sequence was used in the course of the invention.
                                                              Rittershaus CW,
                                                                                                       01-MAY-1995;
                                                                                                                             01-MAY-1996;
                                                                                                                                                                         WO9634888-A1
                                                                                                                                                                                                                                        Region
                                                                                                                                                                                                                                                                                   Region
                                                                                                                                                                                                                                                                                                                              Region
                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                           Cholesteryl ester transfer protein; CETF cardiovascular disease; atherosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Cholesteryl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-FEB-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Anti-cholesteryl ester
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW06131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW06131 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
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                                       1996-506103/50
                                                                                  T CELL
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                                                                                  SCI INC
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                                                            Thomas LJ;
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                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                   /label-
                                                                                                                                                                                                                                                                                                                                                              /note-
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                                                                                                                                                                                                                                                                                                                                      in linking the projecules"
                                                                                                                                                                                                                                                 B-cell_epitope
"B-cell epitope co
349-367 of human
                                                                                                                                                                                                               B-cell_epitope
                                                                                                                                                                                                                                                                                       T-cell_epitope
"T-cell epitope comprises amino
830-843 of tetanus toxoid prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                          transfer multivalent vaccine peptide
                                                                                                                                                                                                    B-cell epitope comprises the C-terminal amino acids of human CETP, involved in
                                                                                                                                                                                           neutral lipid binding or transfer activity"
                                                                                                                                                                                                                                                                                                                                                                                                                                      protein; CETP; antigen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 162; DB 20;
Pred. No. 4.6e-18;
; Mismatches 0;
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                                                                                                                                                                                                                                                                                            protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                       vaccine;
                                                                                                                                                                                                                                                                                                      acids
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RESULT
AAW06132
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Best Local S
Matches 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A multivalent vaccine comprises an immunogenic helper ?-cell epitope of tetanus toxoid protein covalently linked to the B-cel epitopes of human cholestery! ester transfer protein (CETP) (see also AAW06127). The vaccine elicits an immune response against endogenous CETP activity, and is used to treat or prevent a covalence of the covalence of th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   atherosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cardiovascular disease, such as atherosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                            Cholesteryl ester transfer protein B cell epitope linked to Tepitope - used to generate vaccine to regulate CETP activity decreasing the risk of developing a cardiovascular disease e.g atherosclerosis
                                                                                                                                                                                                                                                                                    01-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Key
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAW06132 standard;
                                                                                                                                                     WPI;
                                                                                                                                                                                               Rittershaus CW,
                                                                                                                                                                                                                                          (TCEL-) T CELL
                                                                                                                                                                                                                                                                                                                              01-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                        07-NOV-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Anti-cholesteryl ester transfer multivalent vaccine peptide
Disclosure; Page 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     _
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                                                                                                                                                        1996-506103/50
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ester transfer protein; CETP;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              disease;
                                                                                                                                                                                                                                            SCI INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label- B-cell_epitope comprises the C-terminal 16 /note- "B-cell epitope comprises the C-terminal 16 amino acids of rabbit CETP, involved in amino acids of rabbit cerp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label= T-cell_epitope
/note= "T-cell epitope comprises amino 830-843 of tetanus toxoid prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7; 72pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              35..50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= B-cell_epitope
/note= "B-cell epitope comprises
350-368 of rabbit CETP"
                                                                                                                                                                                                  Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16..34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entry)
  72pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88.0%;
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                                                                                                                                                                                                  ٤
                                                                                                                                                                                                                                                                                                                                                                                                                                                        amino acids of rabbit CETP, involved in neutral lipid binding or transfer activity"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         English.
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Pred. No. 8.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                antigen; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 17;
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| protein"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       to the B-cell
n (CETP) (see
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                                                                                                                T cell
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RESULT
AAW46447
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Best I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A multivalent vaccine comprises an immunogenic helper T-cell epitope of tetanus toxoid protein covalently linked to the B-cell epitopes of rabbit cholesteryl ester transfer protein (CETP) (see also AAW06133). The vaccine elicits an immune response against endogenous CETP activity, and is used to treat or prevent a cardiovascular disease, such as atherosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                        Cholesteryl ester transfer protein; CETP; cholesteryl ester; high density lipoprotein; HDL; very low density lipoprotein; VLDL; low density lipoprotein; LDL; atherosclerosis; neutral lipid binding; transfer activity; limmunogenic; B cell epitope; antibody; DNA plasmid-based vaccine; broad range helper T cell epitope;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                   Key
Peptide
                                                                                                                                                                                                                                                                                                                                                                     Chmieric
                                                                                                                                                                                                                                                                                                                                                                                                               DNA plasmid-based vaccine; broad ratreatment; cardiovascular disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CETP B cell epitope/tetanas toxoid construct for a plasmid vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-MAY-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAW46447 standard;
                    DNA plasmid-based vaccine encodes CETP B cell and helper T cell epitope(s) - used for elevating high density lipoprotein levels for treating cardiovascular disease
                                                                                                                                                                                                                                                                                                                                                                                Chimeric
                                                                 WPI; 1997-549731/50.
N-PSDB; AAV05128.
                                                                                                                                                                              01-MAY-1997;
                                                                                                                                                                                                                        W09741227-A1
                                                                                                                                                                                                                                                                                                     Peptide
                                                                                                                                             01-MAY-1996;
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                                                                                                                                                                                                    06-NOV-1997
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                                                                                                                      (TCEL-) T
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 QYIKANSKFIGITE-------FGFPEHLLVDFLQSLS 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Match
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29; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                 ,
                                                                                                                         CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     50 AA;
                                                                                                                                                                                                                                                                                                                                                                     Clostridium
Oryctolagus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                             97US-0802967
96US-0640713
                                                                                                                         SCI INC
                                                                                                                                                                              97WO-US07294
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                                                                                                                                                                                                                                                                                           /note-
                                                                                                                                                                                                                                                                                                                           /note=
                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         79.98;
                                                                                                                                                                                                                                                                                                                                                                     qe.
                                                                                                                                                                                                                                                                                                                                                                                 tetani
                                                                                                                                                                                                                                                                                                               "tetanas toxoid broad range helper T epitope"
                                                                                                                                                                                                                                               "CETP epitope
AAW46445"
                                                                                                                                                                                                                                                                                "CETP epitope
AAW46445"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 129.5;
Pred. No. 8.9
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                                                                                                                                                                                                                                                                                                                                                                                                                   chimeric
                                                                                                                                                                                                                                                          of.
                                                                                                                                                                                                                                                                                           O.F
                                                                                                                                                                                                                                                            amino acids 481-496
                                                                                                                                                                                                                                                                                           amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .9e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                           acids 350-368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                   levels,
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                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                             cell
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                                   and
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Claim

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Page

22;

67pp;

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        or human immune deficiency
                        New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis
                                                                                          WPI; 2000-160564/14
                                                                                                                                                                                                                                                                                                                                                            Chimeric -
Chimeric -
                                                                                                                                                                                                                                                                                                                                                                                                             somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; Immunoglobulin E; IgE; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CEPP; cholesteryl ester transport protein; anti-arteriosclerotic.
                                                                                                                                                                                                         20-JUN-1998;
                                                                                                                                                                                                                                                                                    29-DEC-1999
                                                                                                                                                                                                                                                                                                                         W09966957-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticancer;
                                                                                                                                                                  (UNBI-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified HBVsurface Ag/CETP peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY91236 standard; peptide; 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qyikanskfigiterfprpdgreavayrfeedifgfpkhilvdflqsls 50
                                                                                                                                                                    UNITED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                              Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antibodies in vivo and for treating cardiovascular disease
                                                                                                                                                                                                                                                                                                                                                                              Hepatitis B virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  50 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                BIOMEDICAL INC
                                                                                                                                                                                                       98US-0100412.
                                                                                                                                                                                                                                            99WO-US13975
                                                                                                                                                                                                                                                                                                                                                          sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NO:114
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RESULT AAY13815

AAY13815 standard;

peptide;

22

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XSXEX

08-JUL-1999 AAY13815

(first entry)

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CC (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are Th epitope/IgE CH3
CC antigenic peptides which may be used in the treatment of allergies.
CC AAY91220 is a peptide derived from foot and mouth disease virus (FMDV)
CC vpl capsid protein and AAY91221-Y91222 comprise this peptide and a Th
CC epitope. AAY91223 is a Plasmodium falciparum circumsporozoite (CS) target
CC entigen, and AAY91224-Y91225 comprise the CS antigen and an MyF Th
CC epitope and may be used in a malaria vaccine. AAY91228-Y91231 represent
CC CETP peptide and a Th epitope which may be used to prevent or treat
CC CTT peptide and an cardiovascular disease. AAY91247 and AAY91252-Y91257
CC are HTV-1 neutralising B-cell epitopes, and AAY91248-Y91251 and
CC CAY91128-Y91273 are antigenic peptides comprising WHT hand HTV-1 B-cell
CC CAY91128 and AAY91129 are respectively an immunostimulatory invasin
CC protein epitope from Yersinia species, and hinge spacer peptide, both of
CC which may optionally be used in the antigenic peptides of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CC immunocastration); for promoting the growth of animals; or for clareating allergies or arteriosclerosis. Incorporation of a promiscuous Th (functional in genetically diverse subjects) into an immunogen cc improves capacity to induce a strong T helper cell-mediated immune cresponse, resulting in production of antibodies against a target cresponse, resulting in production of antibodies against a target cresponse, resulting in production of antibodies against a target cresponse, resulting in production of antibodies against a target cresponse, resulting in production of antibodies against a target response, resulting in production of antibodies against a target cresponse, resulting in production of antibodies and pathogen-derived T helper epitopes. Sequence AAY912121 represents a promiscuous Thelper epitope crows Thepitopes based on the tropitope. Sequence AAY91143 represents a promiscuous Thepitope based on the CMVF Thepitopes. Sequence AAY91143 represents a promiscuous Thepitope. AAY9126 and AAY9127 and AAY9127 represents are antigenic peptides. Comprising an LHRH sequence joined to a promiscuous Thepitope. AAY91197 comprising an LHRH sequence joined to a promiscuous Thepitope. AAY91197 is the LHRH target antigenic peptide used in these LHRH antigenic peptides. AAY91200 is somatostatin and AAY91201-y91207 are antigenic comprising somatostatin and a Thepitope. Somatostatin and comprise the comprise of the comprise
                                                                                                                                    Matches
                                                                                                                                                               Best Local
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                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                       invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 11; Page 106; 129pp; English
1 Similarity
17; Conserv
                                                                                                                                                                                                                                                                                          35
                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                          A
                                                                                                                                                        53.7%;
                                                                   31
                                                                                                                                 1;
                                                                                                                                                            Score 87;
Pred. No.
                                                                                                                                                        Pred.
                                                                                                                                 Mismatches
                                                                                                                                                                                          DB 21;
                                                                                                                                                            3e-06;
                                                                                                                                                                                       Length 35;
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Rabbit CETP immunogenic fragment

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Best Local Similarity
Matches 16; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                       method can provide an autogenic immunological process for lessening the transfer of cholesteryl esters from hIDL particles and for increasing the HDL cholesterol concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/LDL cholesterol ratios. The method can have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.

Sequence 22 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This sequence represents an immunogenic fragment of the rabbit cholesteryl ester transferase protein (CETP). The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibodies to lessen transfer of cholesteryl esters from high density lipotrotein (HDL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CETP; cholesteryl-ester transfer protein; recombinant DNA vaccine; antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OryctoLagus sp.
                                                                                          CETP; cholesteryl-ester transfer protein; recombinant DNA antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
                                                                                                                                                                                         08-JUL-1999
                                                                                                                                                                                                                    AAY13821;
                                                                                                                                                                                                                                            AAY13821 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 75; 99pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New recombinant DNA vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SNOM)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-SEP-1998;
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           01-APR-1999
                                                                                                                                                             Human CETP immunogenic fragment.
                                        W09915655-A1
                                                                 Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                   52.5%;
94.1%;
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Pred. No. 2.8e
1; Mismatches
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2.8e-06;
                                                                                                                                                                                                                                                                                                                                                                                               Length 22
                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                    vaccine; HDL;
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RESULT
AAW06128
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cholesteryl ester transferase protein (CETP).

The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibodies to lessen the transfer of cholesteryl esters from high density lipoprotein (HDL). The method can provide an autogenic immunological process for lessening the HDL cholesteryl esters from HDL particles and for increasing the HDL cholesterol concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/LDL cholesterol ratios. The method can have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 88; 99pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Glenn K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MONS ) MONSANTO CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-SEP-1998;
         Cholesteryl ester transfer protein B cell epitope linked to T cell epitope - used to generate vaccine to regulate CETP activity for decreasing the risk of developing a cardiovascular disease e.g. atherosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New recombinant DNA vaccines
                                                                                                                                                                                                                                                                             Cholesteryl ester transfer protein; CETP; antigen; vaccine; cardiovascular disease; atherosclerosis; B-cell epitope.
                                                                                                                                                                                                                                                                                                                   Human cholesteryl ester transfer protein C-terminal B-cell epitope.
                                                                                                                                                                                                                                                                                                                                              07-FEB-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This sequence represents an immunogenic fragment of the human
                                                                         WPI; 1996-506103/50.
                                                                                                 Rittershaus CW,
                                                                                                                        (TCEL-) T CELL SCI INC.
                                                                                                                                                   01-MAY-1995;
                                                                                                                                                                          01-MAY-1996;
                                                                                                                                                                                                     07-NOV-1996
                                                                                                                                                                                                                              WO9634888-A1
                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                       AAW06128;
                                                                                                                                                                                                                                                                                                                                                                                               AAW06128 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15 EFGFPEHLLVDFLQSLS 31
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                                                                                                                                                                            96WO-US06147
                                                                                                  Thomas
                                                                                                                                                                                                                                                                                                                                                                                               Peptide;
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94.1%;
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Pred.
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RESULT
AAY13801
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Best Local S
Matches 16
encoding CETP, which can be used for producing antibodies to lessen the transfer of cholesteryl esters from high density lipoprotein (HDL). The method can provide an autogenic immunological process for lessening the transfer of cholesteryl esters from HDL particles and for increasing the HDL cholesterol concentration of a mammal whose blood also contains carp. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/LDL cholesterol ratios. The method can have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.
                                                                                                                                    Cholesteryl ester transferase protein (CETP). The invention relates to recombinant DNA vaccines that contain DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A B-cell epitope (AAM0612B) comprising the C-terminal 26 amino acids of human liver mature cholesteryl ester transfer protein (CETP) (see also AAM06127) is involved in a neutral lipid binding or a transfer activity of CETP. It can be linked to a universal or broad range immunogenic T-cell epitope, such as that found at amino acids 830-843 of tetanus toxold protein, to produce a synthetic vaccine (see also AAM06129) that elicits an immune response against endogenous CETP activity, thereby treating or preventing cardiovascular disease, such as atherosclerosis. It may also be incorporated into a multivalent vaccine (see also AAW06131) including another CETP B-cell epitope.
                                                                                                                                                                    This sequence represents an immunogenic fragment of the rabbit
                                                                                                                                                                                                                                                                   WPI; 1999-276984/23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CETP; cholesteryl-ester transfer protein; recombinant DNA vaccine; antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
                                                                                                                                                                                                                                     New recombinant DNA vaccines
                                                                                                                                                                                                                                                                                                                                                                                         17-SEP-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Oryctolagus sp.
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                                                                                                                                                                                                   Page 85; 99pp; English.
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94.1%;
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RESULT 1
AAY91228
                                                             The invention relates to novel promiscuous T helper cell epitopes (Th), CC and immunogenic peptides comprising the Th epitopes of the invention CC along with B cell epitopes. The Th epitopes and peptide immunogens CC containing them, are used to induce a T helper cell response, CC specifically against plasmodium falciparum, cholesteryl ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC peptide immunogens may be used for prevention and/or treatment of CC infections (HIV, foot-and-mouth disease or malaria); for cancer communotherapy; for inhibition of the action of luteinising hormone (LHRH) for contraception, treatment of hormone-CC releasing hormone (LHRH) for contraception, treatment of hormone-CC immunocastration); for promoting the growth of animals; or for immunocastration); for promoting the growth of animals; or for treating allergies or arteriosclerosis. Incorporation of a promiscuous CC Th (functional in genetically diverse subjects) into an immunogen component cancer, prevention of a promiscuous capacity to induce a strong T helper cell mediated immune component cancer capacity component can
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Best Local S
Matches 16
antigen. Th can replace carrier proteins and pathogen-derived T helper epitopes. Sequence AAY91121 represents a promiscuous T helper epitope from the measles virus F (MVF) protein and sequences AAY91122-Y91142,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; plasmodium falciparum; circumsporozoite; antimalarial; CETP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 10; Page 49; 129pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       or human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis
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Pred. No.
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CC AAV91144-Y91155 are synthetic epitopes derived from this HBV epitope.
CC AAV91156-Y91196, AAV91227 and AAV91242-Y91244 are antigenic peptides.
CC comprising an LHRH sequence joined to a promiscuous Thepitope. AAV91197
CC is the LHRH target antigenic peptide used in these LHRH entigenic
CC peptides. AAV91200 is somatostatin, and AAV91201-Y91207 are antigenic
CC peptides. AAV91200 is somatostatin and a Thepitope. Somatostatin
CC immunogens may be used to promote growth in livestock. AAV91208 is a
CC human CD4 CDR2-like domain entigenic site, and AAV91207-Y90211 are MVH Th
CC infection of T cells. AAV90212 is a modified version of a human IgE
CC (immunoglobulin E) CEI domain, and AAV90213-Y9021 are The epitope/IgE CH3
CC antigenic peptides which may be used in the treatment of allergies.
CC AAV91220 is a peptide derived from foot and mouth disease virus (FMDV)
CC VPI capsid protein and AAV91221-Y91225 comprise this peptide and a Th
CC epitope and may be used in a malaria vaccine. AAV91228-Y91231 represent
CC epitope and may be used in a malaria vaccine. AAV91228-Y91231 represent
CC epitope and any aptides and AAV91233-Y91241 are immunogens comprising a
CC are HIV-1 neutralising B-cell epitopes, and AAV91236-Y91251 and
CC EPIT-genterosis and cardiovascular disease. AAV91248-Y91251 and
CC CAAV91258-Y91273 are antigenic peptides comprising WH Th and HIV-1 B-cell
CC AAV91218 and AAV91239 is a plasmodium falciparing the Hard HIV-1 B-cell
CC AAV91218 and AAV91237 is a plasmodium falciparing the Hard HIV-1 B-cell
CC AAV91218 and AAV91237 is a plasmodium falciparing the HIV-1 hand HIV-1 B-cell
CC AAV91218 and AAV91237 is a plasmodium falciparing the HIV-1 hand HIV-1 B-cell
CC AAV91218 and AAV91237 is a plasmodium falciparing the HIV-1 hand HIV-1 B-cell
CC AAV91218 and AAV91237 is a plasmodium falciparing the HIV-1 hand HIV-1 B-cell
CC AAV91218 and AAV91230 are antigenic peptides of the Invention.
CC AAV91218 and AAV91230 are antigenic peptides of the Invent
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                                                                                                                                                                                                               Chimeric - Measles virus
Chimeric - Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Modified MVF Th epitope/CETP peptide, SEQ ID NO:110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAY91232 standard; peptide;
                          20-JUN-1998;
                                                                       21-JUN-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                  Promiscuous T-cell epitope; measles virus F protein;
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                                                                                                                                                                                                                                          Measles virus
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94.1%;
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AAY91226 and AAY91245-Y91246 represent synthetic Th ep.topes based on MVF Th epitope. Sequence AAY91143 represents a promiscuous Th epitope
Claim 11; Page 104; 129pp; English.
                                                                                                                                                                                                                                                                                                               or human immune deficiency virus
                                                                                                                                                                                                                                                                                                                    New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis
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                                                                                                                                                                                                                                                                                                                                                           (UNBI-) UNITED BIOMEDICAL INC
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Matches The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against Plasmodium falciparum, cholesteryl ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer the protein of the protein of the protein contains the protein of the immunotherapy; for inhibition of the action of luteinising hormone releasing hormone (LHRH) for contraception, treatment of hormone-dependent cancer, prevention of boar taint in meat, and immunocastration); for promoting the growth of animals; or for treating allergies or arteriosclerosis. Incorporation of a promiscuous of the function of a promiscuous of the function of the contraction of the promiscuous of Sequence Local Similarity 16; 46 Conservative 52.5%; Score 85; DB 21; Pred. No. 6.6e-06; Mismatches DB 21; 0; Length 46; 0 Gaps 0

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CC and immunogenic peptides comprising the Th epitopes of the invention calony with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, containing them, are used to induce a T helper cell response, specifically against plasmodium falciparum, cholesteryl ester transport containing them, are used to induce a T helper cell response, specifically against plasmodium falciparum, cholesteryl ester transport containing them, are used to induce a Thelper cell response, pathogen, induced in the containing them, are used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaxia); for cancer contained the provention of interinsing hormone (IHRH) for contraception, treatment of hormone contractions (HIV, foot-and-mouth disease or malaxia); for cancer contained to a contraction of interinsing hormone (IHRH) for contraception, treatment of hormone contractions of a promiscuous contraction of a promiscuous contraction of a promiscuous contractions and particular and indunced a contraction of a promiscuous contraction and indunced indunced contraction of a promiscuous contraction and indunced indu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 11; Page 104-105; 129pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              W09966957-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chimeric - Measles virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cholesteryl ester transport protein; anti-arteriosclerotic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (UNBI-) UNITED BIOMEDICAL INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Modified MVF Th epitope/CETP peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ID NO:111
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AAW06127
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cc human CD4 CDR2-like domain antigenic site, and AAY91209-Y90211 are MVH The CC epitope/CD4 CDR2 antigenic peptides which may be used to prevent HIV CC infection of T cells. AAY90212 is a modified version of a human Jg5 CC (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are The pitope/IgE CH3 CC antigenic peptides which may be used in the treatment of allergies. CC AAY91220 is a peptide derived from foot and mouth disease virus (FMDV) CC vPl capsid protein and AAY91221-Y91222 comprise this peptide and a The pitope. AAY91223 is a Plasmodium falciparum circumsporozoite (CS) target CC aptigen, and AAY91224-Y91225 comprise the CS antigen and an MVF Th CC epitope and may be used in a malaria vaccine. AAY9128-Y91231 represent CC CETP reptides and AAY91232-Y91241 are immunogens comprising a CC CETP peptide and a The epitope which may be used to prevent or treat CC cart sign. The cart of the component of the component in an anti-HTV-1 meutralising B-cell epitopes, and AAY91247 and AAY91252-Y91257 are HIV-1 neutralising B-cell epitopes, and AAY91248-Y91251 and CC AAY91258-Y91273 are antigenic peptides comprising MVH Th and HIV-1 B-cell calculated by the component in an anti-HTV-1 vaccine. CC AAY9129 and AAY91199 are respectively an immunostimulatory invasin content of the component in an anti-HTV-1 vaccine. AAY91198 and AAY91199 are respectively an immunostimulatory invasin component in an anti-HTV-1 vaccine. AAY91198 and poptionally be used in the antigenic peptides of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 16;
Cholesteryl ester transfer protein B cell epitope linked to T cell
                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                              cardiovascular disease; atherosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-FEB-1997
                                               WPI; 1996-506103/50
                                                                                Rittershaus CW,
                                                                                                                                                  01-MAY-1995;
                                                                                                                                                                                 01-MAY-1996;
                                                                                                                                                                                                                07-NOV-1996
                                                                                                                                                                                                                                                 WO9634888-AJ
                                                                                                                                                                                                                                                                                                                                                Region
                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cholesteryl ester transfer protein; CETP; antigen; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human cholesteryl ester transfer protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW06127 standard; Protein; 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                               (TCEL-) T CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15 EFGFPEHLLVDFLQSLS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                               SCI INC
                                                                                                                                                9505-0432483
                                                                                                                                                                                 96WO-US06147
                                                                                                                                                                                                                                                                                                                                              /label= B-cell_epitope
                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                Thomas LJ:
                                                                                                                                                                                                                                                                                                                                /label- B-cell_epitope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              52.5%;
                                                                                                                                                                                                                                                                            "C-terminal epitope
lipid binding or a
CETP (Claim 5)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31

    Mismatches

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 85; DB 21;
Pred. No. 6.6e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                 involved
transfer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
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                                                                                                                                                                                                                                                                                                 in neutral activity of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
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used to generate

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RESULT 1
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Best Local S
Matches 16
  The present sequence represents a human mature cholesteryl ester transfer protein (CETP). CETPs mediate the transfer of cholesteryl esters from high density lipoprotein (HDL) to very low density lipoprotein (VLDL) and low density lipoprotein (LDL). An increased CETP activity produces an atherogenic lipoprotein profile and induces atherosclerosis. A 13 amino acid stretch in the human CETP (phe463 to Le 1475), and also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cholesteryl ester transfer protein; CETP; cholesteryl ester; high density lipoprotein; RDL; very low density lipoprotein; LDL; atheroscierosis; neutral lipid bindi transfer activity; immunogenic; B cell epitope; antibody; TP2; DNA plasmid-based vaccine; broad range helper T cell epitope;
                                                                                                                                                                      Claim
                                                                                                                                                                                                           DNA plasmid-based vaccine encodes CETP B cell and helper T cell epicope(s) - used for elevating high density lipoprotein levels, for treating cardiovascular disease
                                                                                                                                                                                                                                                                                                                 WPI; 1997-549731/50
N-PSDB; AAV05127.
                                                                                                                                                                                                                                                                                                                                                                                       Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-FEB-1997;
01-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human mature cholesteryl ester transfer protein (CETP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-MAY-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAW46446 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human liver mature cholesteryl ester transfer protein (CETP) (AAW06127) plays a role in altering the relative profile of circulating lipoproteins to one associated with an increased risk of cardiovascular disease. B-cell epitopes (see also AAW06128) of CETP can be used in novel peptide vaccines (see also AAW06129, AAW06131) that elicit an immune response against endogenous CETP activity, thereby treating or preventing cardiovascular disease, such as
                                                                                                                                                                                                                                                                                                                                                                                                                                    (TCEL-) T CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         W09741227-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     treatment; cardiovascular disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAW46446;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   decreasing the risk of developing a cardiovascular discase e.g. atherosclerosis % \left( \mathbf{r}_{i}\right) =\mathbf{r}_{i}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        atherosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EFGFPEHLLVDFLQSLS 31
                                                                                                                                                                 6; Pages 36-38; 67pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Page 44-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       476 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                    SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97US-0802967
96US-0640713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97WO-US07294
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94.1%;
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1; Mis
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 476;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
Le 1475),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                        and
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CC possibly Asp460, are particularly important for neutral lipid binding and CC transfer activity. This region has been shown to be immunogenic as a B CC cell epitope of CETP, and a monoclonal antibody (TP2) directed at this CC region has been shown to inhibit neutral lipid transfer. A second B cell celliptic pels defined by Arg349 to 11e367. Antibodies to this second epitope would allow the formation of immune complexes involving CETP, and promote CC the removal of the complexed CETP. This peptide region was selected for cits potential antigenicity and high possibility for surface expression CC on mative CETP. Sequences encoding these 2 epitopes can be used in a DNA CC plasmid-based vaccine which comprises sequences encoding at least 1 B CC ell epitope of CETP linked in frame with at least one segment encoding CC a broad range helper T cell epitope. The vaccines can be used to elevate CC the ratio of circulating HDL to circulating LDL, VLDL or total collecterol in a human. It can also be used for decreasing the level of cendogenous CETP activity in a human. The vaccine can be used to produce anti-CETP antibodies in vivo and for treating cardiovascular disease.
Sequence
476 AA;
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                         Matches
                               Query Match
Best Local
15
            EFGFPEHLLVDFLQSLS 31
                         16;
                             Similarity
                        Conservative
                               94
                              .18
                             Score 85;
                        Mismatches
                             9.7e-05;
                                    DB 18;
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Search completed: June 18, time: 156 sec 2002, 08:08:27

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Result
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Maximum DB seq
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
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Perfect score:
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                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                       Score
              1622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein search, using sw model
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length: 2000000000
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Match
           100.0
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Listing first 45 summaries
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'Cgn2_6/ptcdata/2/paa/US06_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US081_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US081_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US081_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US083_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US084_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US085_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US085_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US089_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US089_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US089_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US099_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US090_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US090_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US090_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US090_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US090_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US090_COMB.pep:*
'Cgn2_6/ptcdata/2/paa/US090_COMB.pep:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                                     Length
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       US-08-432-483-2

US-08-432-483A-2

3 US-08-945-289-2

3 US-08-954-643-7

9 US-09-29-762-7

3 US-09-29-33-334-2

3 US-09-943-548-2
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<b>,</b>	equence 14	equence 11	e 11	equence 111	110	equence 1,	equence 1,	equence 10	equence 29	equence 29	1, Appl	equence 29, App	equence 25	Sequence 29. App	equence 1,	۲,	equence 106, App	ω	Ξ.	ω	= :	34 App	10. App	ω,	3 5	Sequence 14 Appl	3 5	Sequence 114	_ ;	: ٥	equence 9. Appl	equence 9. Appl	e 7. Appl	7. Appl	Ξ.	8. Appl	8. Appl

## ALIGNMENTS

RESULT

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US-08-432-483-2
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                COUNTRY: USA
ZIT: 60606-7407
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC DOS/MS-DOS
SOFTWARE: WordPerfect 6.1
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/432,483
FILING DATE:
CLASSIFICATION DATA:
FILING DATE:
FILING D
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Banner & Allegretti, Ltd
STREET: Ten South Wacker Drive
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TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
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CITY: Chicago
STATE: Illinois
                                                                        30,237
95,179(TCS-95179)
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Sequence

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US-08-432-483-2
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US-08-432-483A-2
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Best Local Similarity
                           Matches
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                                                    Query Match
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                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER:
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,237
                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
                                                                                                                                    FEATURE:
                                                                                                                                                HYPOTHETICAL:
ANTI-SENSE:
                                                                                                                                                                           MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Chicago
. 1 CQYIKANSKFIGITEFGFPEHLLVDFLQSLS 31
                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/
FILING DATE: 1-May-1995
                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WordPerfect 6.1
                                       Local
                                                                                                                                                                                      TOPOLOGY:
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                                                                                                                      NAME/KEY:
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                           31;
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                                        Similarity
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Ten South Wacker Drive
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VENTION: MODULATION OF CHOLESTERYL ESTER
VENTION: TRANSFER PROTEIN (CETP) ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                           Conservative
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Pred. No. 4e-17;
                                        Score 162;
Pred. No.
                             Mismatches
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                                       4e-17;
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US-08-954-643-7
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US-08-945-289-2
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                                                                                                                                                         Sequence 7, Application US/08954643
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                         Best Local Similarity Matches 31; Conserv
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/945,289
EILING DATE: October 17, 1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/432,483
ETLING DATE: May 1,1995
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,237
REGISTRATION NUMBER: 30,237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Rittershaus, Charles, W. APPLICANT: Thomas, Lawrence J. THOMAS, LAWRENCE J. THOMAS, LAWRENCE OF CHOLESTERYL ESTER TITLE OF INVENTION: TRANSFER PROTEIN (CETP) ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
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CORRESPONDENCE ADDRESS:
                                                                                                                         APPLICANT: Rittershaus, Charles, W. APPLICANT: Thomas, Lawrence J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ANTI-SENSE:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE:
HYPOTHETICAL:
                                                           CORRESPONDENCE ADDRESS:
                                                                                           TITLE OF INVENTION:
                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: ami
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OPERATING SYSTEM:
SOFTWARE: Word 9'
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                             STREET:
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STATE:
                            ADDRESSEE: Yankwich & Associates
STREET: 130 Bishop Allen Drive
                                                                                                                                                                                                                                                      LENGTH:
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SYSTEM: Windows 9:
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100.0%; pr
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                                                                                           TRANSFER PROTEIN (CETP) FOR MODULATION OF CETP ACTIVITY
                                                                                                             XENOGENEIC CHOLESTERYL ESTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCS-411.1P US
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No. 4e-17;
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COMPUTER READABLE FORM:

MEDIUM TYPE:

floppy disk

COUNTRY: U.S.A. ZIP: 02139

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                                                                                                                                                               ; OTHER INFORMATION: Description of Artificial Sequence: synthetic OTHER INFORMATION: fusion protein containing tetanus toxoid segment TOTHER INFORMATION: linked to human CETP C-terminus US-09-529-762-7
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                                                                                                                                                                                                                                                                                                                                             APPLICANT: AVANT Immunotherapeutics, Inc.
APPLICANT: Rittershaus, Charles
APPLICANT: Thomas, Lawrence
TITLE OF INVENTION: Xenogeneic Cholesteryl Ester Transfer Protein (CETP for INVENTION: Modulation of CETP Activity
FILE REFERENCE: Sequence listing for TCS-420.1 PCT
CURRENT APPLICATION NUMBER: US/09/529,762
CURRENT FILING DATE: 2000-04-18
PRIOR FILING DATE: 1997-10-20
PRIOR FILING DATE: 1997-10-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
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Best Local
                                                                                                                                                                                                                                                                                                             SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7,
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                                                                          Matches
                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: LEON R. Yankwich
REGISTRATION NUMBER: 30,237
REFERENCE/DOCKET NUMBER: TC:
INFORMATION FOR SEQ ID NO: 7:
                                                                                                                                                                                                                                                                                                                             SOFTWARE:
                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible OPERATING SYSTEM: Windows 95 SOTTWARE: WORD 97 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                         LENGTH: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 31 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/954,643 FILING DATE: concurrently herewith CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
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Similarity
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                                                                          Conservative
                                                                      100.0%; score 162; DB 19; Length 31; 100.0%; pred. No. 4e-17; tive 0; Mismatches 0; Indels
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RESULT

RESULT 8 US-08-945-289-8

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, OTHER INFORMATION: vaccine peptide of the invention Us\hbox{-}09\hbox{-}943\hbox{-}334\hbox{-}2
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; LENGTH: 31
; TYPE: PRT
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Best Local Similarity
Matches 31; Conserv
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                                                                                  Matches
                                                                                                    Query Match
Best Local
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APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVI
FILE REFERENCE: TCS-411.1P US-1; TCS-411.1P US-2
CURRENT APPLICATION NUMBER: US/09/943,334
CURRENT FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR FILING DATE: 1995-05-01
                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: 08/432.483
PRIOR FILING DATE: 1995-05-01
PRIOR APPLICATION UNMBER: PCT/US96/06147
PRIOR FILING DATE: 1996-05-01
PRIOR APPLICATION NUMBER: 08/945,289
PRIOR FILING DATE: 1997-10-17
NUMBER: OF SEO ID NOS: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVI
FILE REFERENCE: TCS-411.1P US-1; Tcs-411.1P US-2
CURRENT APPLICATION NUMBER: US/09/943,548
CURRENT FILING DATE: 2001-08-30
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PRIOR FILING DATE: 1996-05-01
PRIOR APPLICATION NUMBER: 08/945,289
PRIOR FILING DATE: 1997-10-17
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Rittershaus, Charles W. APPLICANT: Thomas, Lawrence J.
                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn version 3.1
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                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                              ORGANISM: Artificial Sequence
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1 CQYIKANSKFIGITEFGFPEHLLVDFLQSLS 31
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                                                                                    Conservative
                                                                                  100.0%; Score 162; DB 2
100.0%; Pred. No. 4e-17;
tive 0; Mismatches
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Sequence 8, Application US/08945289 GENERAL INFORMATION:

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SEQ ID NO 8
LEIGTH: 50
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Best Local
                                                                                                                                                         APPLICANT: Rittershaus, Charles W.
APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVITY
FILE REFERENCE: TCS-411.1P US-1; TcS-411.1P US-2
CURRENT APPLICATION NUMBER: US/09/943,334
CURRENT FILING DATE: 2001-08-30
CURRENT FILING DATE: 2001-08-30
RRIOR APPLICATION NUMBER: 08/432,483
                                  NUMBER OF SEQ ID NOS:
SOFTWARE: PatentIn ver
                                                                                       PRIOR APPLICATION NUMBER: PCT/US96/06147
PRIOR FILING DATE: 1996-05-01
PRIOR APPLICATION NUMBER: 08/945,289
                                                                    PRIOR FILING DATE: 1997-10-17
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NAME/KEY:
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HYPOTHETICAL:
ANTI-SENSE:
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PRIOR APPLICATION DATA:
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MEDIUM TYPE: Floppy
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FILING DATE: May 1,1995
ATTORNEY/AGENT INFORMATION:
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CURRENT APPLICATION DATA:
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APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) ACTIVITY
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130 Bishop Allen Drive
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Pred. No. 6.9e-14;
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; GENERAL INFORMATION:
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TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVI
FILE REFERENCE: TCS-411.1P US-1; Tcs-411.1P US-2
CURRENT FILING CATE: TCS-411.1P US-2
CURRENT FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR FILING DATE: 1995-05-01
PRIOR FILING DATE: 1995-05-01
PRIOR FILING DATE: 1996-05-01
PRIOR APPLICATION NUMBER: 08/945,289
PRIOR APPLICATION NUMBER: 08/945,289
PRIOR FILING DATE: 1997-10-17
PRIOR FILING DATE: 1997-10-17
PRIOR FILING DATE: 1997-10-17
SEQ ID NO 8
LENGTH: 50
TYPE: NEW TOWN THE TOWN THE TOWN TOWN THE 
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Best Local Similarity
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Best Local Similarity

Matches 31; Conserv
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COMPUTER READABLE FORM:
MEDIUM TWEE: Floppy disk
COMPUTER: IBM COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordPerfect 6.1
CURRENT APPLICATION DATA:
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ORGANISM: Artificial Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Thomas, Lawrence J.
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                                                                                                                                                                                                                                                                                                              ADDRESSEE: Banne.
CTRRET: 75 State Street
                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                   STATE:
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62.0%;
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62.0%;
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Pred. No. 6.9e-14;
0; Mismatches 0;
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Pred. No. 6.9e-14;
0; Mismatches (
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; LOCATION:
US-08-640-713-7
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Best Local Similarity
Watches 29; Conserva
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NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,237
REFERENCE/DOCKET NUMBER: 95
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7, Application US/08802967A GENERAL INFORMATION:
                                                                                                                                                            APPLICATION NUMBER: US/08/802,967A FILING DATE: 21-FEB-1997 CLASSIFICATION: 514 PRIOR APPLICATION UNMBER: 08/640,713 FILING DATE: 01-MAY-1996 ATTORNEY/AGENT INFORMATION: NAME: Leon R. Yankwich
                                                                                                                 REFERENCE/DOCKET NUMBER:
INFORMATION FOR SEQ ID NO: 7:
                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 50 amino acids
                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: PLASMID-BASED VACCINE FOR
TITLE OF INVENTION: TREATING ATHEROSCLEROSIS
ANTI-SENSE:
                    HYPOTHETICAL:
                              TOPOLOGY: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE: amino acid sequence of peptide encoded by FEATURE: bases 10 to 159 of SEQ ID NO:5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: peptide HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: Cambridge
STATE: Massachusetts
                                                                   TYPE:
                                                                                                                                                 NAME: Leon R. Yankwich
REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                     SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/640,713 FILING DATE: May 1, 1996 CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
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TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                         02139
                                                               amino acid
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130 Bishop Allen Drive
                                                                                                                                                                                                                                                                                                                                                                                                                      USA
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Pred. No. 6.9e-12;
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                                                       Query Match
Best Local Similarity
Matches 29; Conserv
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                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 'INFORMATION FOR SEQ ID NO: 9: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                 ANTI-SENSE:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/4:
FILING DATE: May 1,1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Rittershaus, Charles, W.
APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODILATION OF CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) ACTIVITY
                                                                                                                                                                                                              MOLECULE TYPE: HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/945,289 FILING DATE: October 17, 1997 CLASSIFICATION: 514
                                                                                                                                                                    NAME/KEY:
                                                                                                                                                                                                                                                                                                                                  NAME: Leon R. Yankwich REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM: Windows 95
SOFTWARE: Word 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity 59.
                                                                                                                                                                                                                                                         TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Cambridge
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                 ADDRESSEE:
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                                                                                                                                                                                                                                                                       LENGTH:
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QYIKANSKFIGITERFPRPDGREAVAYRFEEDIFGFPKHLLVDFLQSLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02139
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                                                                                                                                                                                                                                                                         50 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    130 Bishop Allen Drive
                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
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                                                         Score 129.5; DB 13;
Pred. No. 6.9e-12;
1; Mismatches 0;
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Pred. No. 6.9e-12;
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                                                                                         DB 13;
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                                                                                       Length
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RESULT 14 US-09-943-334-9 ; Sequence 9, Ap

Application US/09943334

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Search completed: June 18, 2002, 08:11:59
Job time: 368 sec
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US-09-943-548-9
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; OTHER INFORMATION: vaccine peptide of the invention US-09-943-334-9
                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: RITLESHAUS, Charles W.
APPLICANT: RITLESHAUS, LAWRENCE J.
APPLICANT: Thomas, LAWRENCE J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVITY
FILE REFERENCE: TCS-411.1P US-1; Tcs-411.1P US-2
CURRENT EILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR FILING DATE: 1995-05-01
PRIOR APPLICATION NUMBER: PCTUUS96/06147
PRIOR FILING DATE: 1996-05-01
PRIOR FILING DATE: 1996-05-01
PRIOR APPLICATION NUMBER: 08/445,289
PRIOR FILING DATE: 1997-10-17
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentin version 3.1
SEQ ID NO 9
LENGTH: 50
TAYRE: PSET
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APPLICANT: Rittershaus, Charles W.

APPLICANT: Thomas, Lawrence J.

TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVITY

FILE REFERENCE: TCS-411.1P US-1; TCS-411.1P US-2

CURRENT APPLICATION NUMBER: US/09/943,334

CURRENT FILING DATE: 2001-08-30

PRIOR APPLICATION NUMBER: 08/432,483

PRIOR PILING DATE: 1995-05-01

PRIOR APPLICATION NUMBER: CT/US96/06147

PRIOR APPLICATION NUMBER: 08/945,289

PRIOR FILING DATE: 1997-00-17

PRIOR FILING DATE: 1997-10-17

PRIOR FILING DATE: 1997-10-17

PRIOR FILING DATE: 1997-10-17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 79.9%;
Best Local Similarity 59.2%;
Matches 29; Conservative
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                                                                                                                                                                                                                                          Query Match 79.9%;
Best Local Similarity 59.2%;
                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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ORGANISM: Artificial Sequence
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                                                                                                                                                      Conservative
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Pred. No. 6.9e-12;
1; Mismatches 0
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Result
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Maximum DB
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Gapop 10.0 , Gapext 0
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162
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GenCore version 4.5
Copyright (c) 1993 ~ 2000 Comp
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/cgn2_6/ptodata/1/paa/US06_NEW.COMB.pep:*
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US-10-018-997-1

US-09-523-033A-3

US-60-360-039-850

US-09-620-393B-4183

US-09-620-393B-8965

US-09-620-393B-4182

US-09-620-393B-4181
                                                                                   US-09-446-415B-6
US-10-128-711-110
US-110-128-711-110
US-110-076-674A-7
US-10-076-674A-7
US-010-076-674A-7
US-010-076-674A-7
US-010-707-73B-5
US-09-709-774-5
US-09-709-774-5
US-09-709-714B-1
US-10-128-711-15
US-09-413-186A-15
US-09-413-186A-15
US-09-413-186A-15
US-09-413-186A-15
US-09-413-186A-15
US-09-413-186A-15
US-09-413-186A-15
US-09-413-186A-15
US-01-128-711-112
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Compugen Ltd
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Sequence 7, Appli
Sequence 5, Appli
Sequence 38, Appl
Sequence 5, Appli
Sequence 710, App
Sequence 1, Appli
Sequence 95, Appli
Sequence 1403, Ap
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Sequence 110, App
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3, Appli
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Best Local S
Matches 16
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46	46	46	47	47	47	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	49
28.4	28.4	28.4	29.0	29.0	29.0	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	29.9	30.2
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US-09-935-625-22443	US-09-935-625-16166	US-10-104-047-2011	PCT-US02-11152-5	US-10-102-806-729	US-09-540-209B-8239	US-10-007-255-4	US-10-028-158-23	US-10-113-872-330	US-10-032-361-1	US-09-555-362-10	PCT-US02-08946-7	PCT-US02-08946-6	PCT-US02-08946-5	PCT-US02-08946-2	PCT-US02-08864-6	PCT-US02-08886-10	US-10-032-361-2	US-09-620-393B-8963
Sequence 22443, A	Sequence 16166, A	Sequence 2011, Ap	Sequence 5, Appli	Sequence 729, App	Sequence 8239, Ap	Seguence 4, Appli	Sequence 23, Appl	Sequence 330, App	Sequence 1, Appli	Sequence 10, Appl	Sequence 7, Appli	Sequence 6, Appl1	Sequence 5, Appli	Sequence 2, Appli	Sequence 6, Appli	Sequence 10, Appl	Sequence 2, Appli	Sequence 8963, Ap

## ALIGNMENTS

```
APPLICANT: Beamer, Less J.

APPLICANT: Eisenberg, David

APPLICANT: Eisenberg, David

APPLICANT: Eisenberg, David

APPLICANT: Carroll, Stephen F.

APPLICANT: Carroll, Stephen F.

TITLE OF INVENTION: BACTERICIDAL/PERMEABILITY-INCREASING PROTEIN:

TITLE OF INVENTION: CRYSTALIZATION, X-RAY DIFFRACTION, THREE-DIMENSIONAL

TITLE OF INVENTION: STRUCTURE DETERMINATION, RATIONAL DRUG DESIGN AND

TITLE OF INVENTION: MOLECULAR MODELING OF RELATED PROTEINS

FILE REFERENCE: 110341502

CURRENT APPLICATION NUMBER: US/09/446,415B

CURRENT APPLICATION NUMBER: 08/799,365

PRIOR APPLICATION WIMBER: 08/799,365

PRIOR APPLICATION WIMBER: 08/799,365

PRIOR FILING DATE: 1997-06-20

NUMBER OF SEQ ID NOS: 12

SOCTMARE: Patentin Ver. 2.1

SEQ ID NO 6
                                                                                                                                                                                     US-10-128-711-110
; Sequence 110, Application US/10128711
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; OTHER INFORMATION: cholesteryl ester transfer protein (CETP) (Figure ; OTHER INFORMATION: 5) US-09-446-4158-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 6, Application US/09446415B GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 470
TYPE: PRT
ORGANISM: Human
FEATURE:
                                                                                                                                                                                                                                                                                                                                APPLICANT: VITIELLO, Maria A.
CHESTNUT, Robert W.
SETTE, Alessandro D.
CELIS, Esteban
NUMBER OF SEQUENCES: 153
                                                                                                                                                                                                                                                                                                                                                                                                                          al Similarity
16; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                               INVENTION: COMPOSITIONS AND METHODS FOR ELICITING
                                                                      GRAY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                    52.5%;
                                                                    Howard
                       CTL IMMUNITY
                                                                                                                                                                                                                                                                                                                                                                                                                          Score 85; DB 5; Pred. No. 5e-05; 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 470;
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MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 110:
US-10-128-711-110
                                                                    us-10-076-674-7
                                                                                                                         Sequence 7. Application US/10076674

GENERAL INFORMATION:

APPLICANT: Sokoll, Kenneth K.

TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System

FILE REFERENCE: Immunogen Delivery System

CURRENT APPLICATION NUMBER: US/10/076,674

CURRENT FILING DATE: 2002-04-23

NUMBER OF SEQ ID NOS: 11

SOFTWARE: PatentIn version 3.1

SEQ ID NO 7

LENGTH: 27

TYPET: DEFT
  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                     ORGANISM: Human
                                                                                                                TYPE: PRT
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INFORMATION FOR SEQ ID NO: 110:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
les 19; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 QYIKANSKFIGITEF ---- LPSDFFPSV 24
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FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: Parmelee, Steven W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 94105-1493
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend Khourie and Crew
STREET: Steuart Street Tower, One Market Plaza
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/197,484
FILING DATE: 16-FEB-1994
APPLICATION NUMBER: US 07/935,811
FILING DATE: 26-AUG-1992
APPLICATION NUMBER: US 07/874,491
FILING DATE: 27-APR-1992
APPLICATION NUMBER: US 07/827,682
FILING DATE: 29-JAN-1992
APPLICATION NUMBER: US 07/827,682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/10/128,711 FILING DATE: 22-Apr-2002 CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 24 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: (206)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 31,990
REFERENCE/DOCKET NUMBER: 14137-26-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn Release #1.0, Version #1.25
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  44.1%;
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  Score 71.5;
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Pred. No. 1.8e-05;
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  BB
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Length 27;
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RESULT 4
US-10-076-674A-7
; Sequence 7, Application US/10076674A
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 7
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Best Local Similarity 80.0
Matches 16; Conservative
                                                                                                                              SEQ ID NO 5
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TITLE OF INVENTION: Induction of Immune Response Against
TITLE OF INVENTION: Desired Determinants
FILE REFERENCE: 018623-00625909
CURRENT APPLICATION NUMBER: US/09/707,738
CURRENT FILING DATE: 2002-04-15
                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 08/121,101
PRIOR FILING DAYE: 1993-09-14
PRIOR APPLICATION NUMBER: US 08/305,871
PRIOR FILING DAYE: 1994-09-14
PRIOR APPLICATION NUMBER: US 08/485,218
PRIOR FILING DATE: 1995-06-07
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TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System
FILE REFERENCE: Immunogen Delivery System
CURRENT APPLICATION NUMBER: US/10/076,674A
CURRENT FILING DATE: 2002-04-23
                                                                                                                                                NUMBER OF SEQ ID NOS:
SOFTWARE: FastSEQ for
                                                                                                                                                                                     PRIOR APPLICATION NUMBER: US 08/788,822
PRIOR FILING DATE: 1997-01-23
PRIOR PPLICATION NUMBER: US 09/310,462
PRIOR FILING DATE: 1999-05-12
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                                                                                        TYPE: PRT
                                                                                                                                                                                                                                                                   PRIOR FILING DATE: 1996-01-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
FEATURE:
OTHER INFORMATION: Tet Tox 830-843, T-helper epitope from tetanus
OTHER INFORMATION: toxin p2, peptide 553.01
                                                                ORGANISM: Artificial Sequence
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Grey, Howard M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alexander, Jeffery L.
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                                                                                                                                                NOS: 25
for Windows Version 3.0
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Pred. No. 0.00024;
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APPLICANT: Epinmune Inc.
TITLE OF INVENTION: HLA Class I A2 Tumor Associated Antigen
TITLE OF INVENTION: Deptides and Vaccine Compositions
FILE REFERENCE: 018623-015710US
CURRENT APPLICATION NUMBER: US/09/543,608A
CURRENT FILING DATE: 2002-04-05
NUMBER OF SEQ ID NOS: 52
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 38
ID NO 38
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Best Local Similarity
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APPLICANT:
APPLICANT:
APPLICANT:
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                                PRIOR APPLICATION NUMBER: US 08/121,101
PRIOR FILING DATE: 1993-09-14
PRIOR FILING DATE: 1993-09-14
PRIOR FILING DATE: 1994-09-14
PRIOR FILING DATE: 1994-09-14
PRIOR FILING DATE: 1996-01-24
PRIOR FILING DATE: 1996-01-24
PRIOR FILING DATE: 1996-01-24
PRIOR PRIOR APPLICATION NUMBER: US 08/788,822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                               TITLE OF INVENTION: Alteration of Immune Response Using Pan TITLE OF INVENTION: Peptides FILE REFERENCE: 018623-006240US CURRENT APPLICATION NUMBER: US/09/709,774 CURRENT FILING DATE: 2000-11-08 CURRENT FILING DATE: 2000-11-08
                                                                                                                                                                                                                                                                                                               APPLICANT: Sette, Alessandro
APPLICANT: Gaeta, Federico
APPLICANT: Grey, Howard M.
                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Artificial Sequence
PRIOR FILING DATE: 1997-01-23
NUMBER OF SEQ ID NOS: 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ENGTH: 14
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Local Similarity 100.0%; F
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                                                                                                                                                                                                                                                          Sidney, John
Alexander, Jef
Epimmune Inc.
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Cells, Esteban
Keogh, Elissa A.
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Sidney, John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09543608A
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                                                                                                                                                                                                                                                                               Jeffery L.
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Pred. No. 0.00019
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Pred. No.
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GENERAL INFORMATION:

APPLICANT: Epinmune Inc.

APPLICANT: Sette, Alessandro

APPLICANT: Chesnut, Robert

APPLICANT: Chesnut, Robert

APPLICANT: Chesnut, Robert

ITILE OF INVENTION: PERTIDES WITH INCREASED BINDING AFF

ITILE OF INVENTION: FOR HAA A3 SUPERTYPE MOLECULES

FILE REFERENCE: 3993-20028.00

CURRENT APPLICATION NUMBER: US/09/260,714B

CURRENT FILING DATE: 1999-03-01

NUMBER OF SEQ ID NOS: 43

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; OTHER INFORMATION: Description of Artificial Sequence:Tet Tox 830-843 US-09-709-774-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; OTHER INFORMATION: Description of Unknown Organism: Tetanus toxoid; OTHER INFORMATION: peptide US-09-942-052-710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-942-052-710
                                                                                                                                                                                                                                                                                                          US-09-260-714B-1
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LENGTH: 14
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SEQ ID NO 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 14; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
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Best Local Similarity
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APPLICANT: Challita-Eid, Pia M.
APPLICANT: Challita-Eid, Pia M.
TITLE OF INVENTION: NUCLEIC ACID AND CORRESPONDING PROTEIN ENTITLED 85P1B3
TITLE OF INVENTION: USEFUL IN TREATMENT AND DETECTION OF CANCER
FILE REFERENCE: 51158-20028 00
CURRENT APPLICATION NUMBER: US/09/942,052
CURRENT FILING DATE: 2001-08-28
CURRENT FILING DATE: 2001-08-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/228,432
PRIOR FILING DATE: 2000-08-28
NUMBER OF SEQ ID NOS: 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Raitano, Arthur B. APPLICANT: Faris, Mary
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TYPE: PRT
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LENGTH: 14
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Afar, Daniel
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100.0%; Pred. No.
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GEQUENCE DESCRIPTION: SEQ ID NO: 95:
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GENERAL INFORMATION:
APPLICANT: VITI
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                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: 14137-26-4
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 467-9600
TELEPAX: (206) 623-6793
INFORMATION FOR SEQ ID NO: 95:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 100.
hes 14; Conservative
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/10/128,711
FILING DATE: 22-Apr-2002
CLASSIFICATION: CUNknown>
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend Khourie and Crew
ADDRESSEE: Townsend and Townsend Khourie and Crew
                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
                                                                                                     FEATURE:
                                                                                                                      MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR ELICITING
CTL IMMUNITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/197,484
FILING DATE: 16-FEB-1994
APPLICATION NUMBER: US 07/935,811
FILING DATE: 26-AUG-1992
APPLICATION NUMBER: US 07/874,491
EILING DATE: 27-ARR-1992
APPLICATION NUMBER: US 07/827,682
FILING DATE: 29-GAN-1992
APPLICATION NUMBER: US 07/749,568
FILING DATE: 26-AUG-1991
                                           COCATION: 1..14
OTHER INFORMATION:
                                                                                                                                                                              TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: Steuart Street Tower,
CITY: San Francisco
STATE: California
                                                                                 NAME/KEY:
                                                                                                                                       TOPOLOGY: unknown
                                                                                                                                                          STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                  NAME: Parmelee, Steven W. REGISTRATION NUMBER: 31,990
                                                                                                                                                                                               LENGTH: 14 amino acids
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CHESTNUT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SETTE, Alessandro D.
CELIS, Esteban
GRAY, Howard
                                                                             Peptide
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100.0%; Pred. No.
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thes 0;
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US-09-413-186A-11
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                                                                                                                                                                                                                                       APPLICANT: Steinaa, Lucilla
APPLICANT: Mouritsen, Soren
APPLICANT: Gautam, Anand
APPLICANT: Haaning, Jesper
APPLICANT: Dalum, Iben
APPLICANT: Blrk, Peter
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 1403
                                                                                                                                                                                                                                                                                                                                                                                     Sequence 11, Application US/09413186A
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Best Local Similarity
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Best Local Similarity
           CURRENT APPLICATION NUMBER: US/09/413,186A CURRENT FILING DATE: 1999-10-05 PRIOR APPLICATION NUMBER: 60/105,011 PRIOR FILING DATE: 1998-10-20 PRIOR APPLICATION NUMBER: PA 1998 01261 PRIOR FILING DATE: 1998-10-05 PRIOR FILING DATE: 1998-10-05
                                                                                                                           APPLICANT: Leach, Dana
APPLICANT: Nielseh, Klauss
APPLICANT: Karlsson, Gunilla
TITLE OF INVENTION: NOVEL METHODS FOR THERAPEUTIC VACCINATION
FILE REFERENCE: 3631-0115p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: NUCLEIC ACID AND CORRESPONDING PROTEIN ENTITLED TITLE OF INVENTION: 10.1-93A11 USEFUL IN TREATMENT AND DETECTION OF CANCER EILE REFERENCE: 511.58-20024. 20 CURRENT APPLICATION NUMBER: US/10/001,469 CURRENT APPLICATION NUMBER: US/10/001,469 CURRENT FILING DATE: 2002-05-20 PRIOR APPLICATION NUMBER: 60/157, 902 PRIOR FILING DATE: 1099-10-05 PRIOR FILING DATE: 1099-10-05 PRIOR FILING DATE: 06/291,118 PRIOR APPLICATION NUMBER: 60/291,118 PRIOR APPLICATION NUMBER: 60/291,118 PRIOR PILING DATE: 2001-05-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: 09/680,728
PRIOR FILING DATE: 2000-10-05
NUMBER OF SEQ ID NOS: 2888
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NUMBER OF SEQ ID NOS:
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TYPE: PRT
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Leach, Dana
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HUBERT, RENE
FARIS, MARY
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100.0%; Pred. No.
tive 0; Mismatc
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100.0%; Pred. No.
tive 0; Mismatcl
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3. 0.00019;
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APPLICANT: Nielseh, Klauss
APPLICANT: Karlsson, Gunilla
TITLE OF INVENTION: NOVEL METHODS FOR THERAPEUTIC VACCINATION
FILE REFERENCE: 3631-01159
CURRENT PILING DATE: 1999-10-05
PRIOR APPLICATION NUMBER: 05/09/413,186A
CURRENT FILING DATE: 1999-10-05
PRIOR FILING DATE: 1998-10-20
PRIOR FILING DATE: 1998-10-20
PRIOR FILING DATE: 1998-10-05
NUMBER OF SED JD NOS: 36
SOFTWARE: PATENTIN VETSION 3.1
SEO ID NO 14
LENGTH: 25
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; TYPE: PRT
; ORGANISM: Clostridium tetani
US-09-413-186a-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT; ORGANISM: Clostridium tetani
PCT-US02-10293-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
PCT-US02-10293-3
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GENERAL INFORMATION:
APPLICANT: Wang, Chang Yi
TITLE OF INVENTION: Immunogenic peptide composition as vaccines for the TITLE OF INVENTION: prevention and treatment of Alzheimer's Disease FILE REFERENCE: 1151-4167
CURRENT APPLICATION NUMBER: PCT/US02/10293
CURRENT FILING DATE: 2002-04-02
NUMBER OF SEQ ID NOS: 76
SOFTWARE: Patentin Ver. 2.0

1 PARTILL 17
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Best Local Similarity 100
Matches 14; Conservative
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SEQ ID NO 11
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Best Local Similarity
Matches 14; Conserv
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              ORGANISM: Artificial Sequence
FEATURE:
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Birk, Peter
Leach, Dana
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100.0%; Pred. No. 0.00021;
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100.0%;
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Pred. No. 0.00024;
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Search completed: June 18, 2002, 08:07:29 Job time: 98 sec

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APPLICANT: Leach, Danas
APPLICANT: Mielsch, Klauss
APPLICANT: Mielsch, Klauss
APPLICANT: Mielsch, Klauss
APPLICANT: Marlscon, Gunilla
TITLE OF INVENTION: NOVEL METHODS FOR THERAPEUTIC VACCINATION
FILE REFERENCE: 3631-0115
CURRENT APPLICATION NUMBER: 05/09/413,186A
CURRENT FILING DATE: 1999-10-05
PRIOR APPLICATION NUMBER: 60/105,011
PRIOR FILING DATE: 1998-10-20
PRIOR FILING DATE: 1998-10-05
NUMBER OF SEQ ID NOS: 36
SOFTMARE: Patentin version 3.1
SEQ ID NO 15
LENCTH: 25
TYPE: PRT
ORGANISM: Artificial Sequence
FEARURE: MATCHARTION: Englon of the Panis toxold epitope and PSM
FEARURE: PATENTANTION: Englon of the Panis toxold epitope and PSM
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Best Local Similarity
Matches 14; Conserv
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Best Local Similarity
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APPLICANT:
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               2 QYIKANSKFIGITE 15
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QYIKANSKFIGITE
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Haaning, Jesper
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100.0%;
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                                                                                  Score 70;
Pred. No.
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Pred No.
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Perfect score:
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        226322117543277
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seq length: 2000000000
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4: /cgn2_6/ptodata/2,

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162
1 CQYIKANSKFIGIT
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     June 18, 2002, 08:06:56; Search time 21.8: Seconds (without alignments)
34.686 Million cell updates/sec
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Copyright (c) 1993 - 2000 Com
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/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
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PCT-US95-02121-110
PCT-US95-02121-130
US-08-446-692-63
US-08-448-351A-35
US-08-448-351A-35
US-08-448-351A-35
US-08-448-351A-57
US-08-448-351A-57
US-08-488-351A-57
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US-08-879-565-14
US-09-171-969-4
US-09-171-969-2
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Sequence 7, Appli
Sequence 14, Appli
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Sequence 63, Appli
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Sequence 35, Appli
Sequence 57, Appli
Sequence 13, Appli
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Sequence 7, Application Patent No. 6284533 GENERAL INFORMATION: APPLICANT: Thomas, I

Thomas, Lawrence J.

US/09171969

TITLE OF INVENTION: PLASMID-BASED VACCINE FOR TREATING ATHEROSCLEROSIS NUMBER OF SEQUENCES: 10

CORRESPONDENCE ADDRESS:

RESULT 1		45	44	<b>4</b> -ω	42	41	40	39	8E	37	36	35	34	33	32	31	30	29	28
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	ALIGNMENTS	PCT-US92-07218-29	US-09-534-639-14	US-09-534-639-13	US-09-075-257A-14	US-09-075-257A-13	PCT-US95-02121-112	PCT-US95-02121-111	PCT-US92-07218-28	PCT-US92-07218-27	PCT-US92-07218-26	PCT-US92-07218-31	PCT-US95-13841-7	PCT-US95-08596-23	US-09-100-409A-40	US-08-488-351A-4	US-08-446-692-4	US-09-248-588-55	PCT-US93-11703-69
		Sequence 2	Sequence 1	Sequence 1	Sequence 1	Sequence 1	Sequence 1	Sequence 1	Sequence 2	Sequence 2	Sequence 2	Sequence 3	Sequence 7	Sequence 2	Seguence 4	Sequence 4	Sequence 4	Sequence 5	Seguence 6
		29, App1	14, Appl	.3, Appl		13, Appl		111, App						23, Appl	40, Appl	, Appli	, Appli	5, Appl	69, Appl

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ADDRESSEE: Banner & Witcoff, Ltd.
STREET: 75 State Street, Suite 2300
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1807
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPUTER: WordPerfect 6.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/171,969
FILING DATE: 01 May 1997 (01.05.97)
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/640,713
FILING DATE: 01 May 1996 (01.05.96)
PRICH APPLICATION NUMBER: 08/802,967
FILING DATE: 01 MAY 1997 (21.02.97)
APPLICATION NUMBER: 08/802,967
FILING DATE: 21 FEBTUARY 1997 (21.02.97)
APPLICATION NUMBER: 30,237
REFERENCE/DOCKET NUMBER: TCS 414.1 PCT (05872)
INFORMATION FOR SEQ 1D NO: 7:
SEQUENCE CHARACTERISTICS:
LENGTH: 50 amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
FEATURE: by bases 10 to 159 of SEQ ID NO: 5
LACATION:
US-09-171-969-7
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Query Match

79.98;

Score 129.5;

DB 4;

Length 50;

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SEQ ID NO 14
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Matches 29; Conservative
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APPLICANT: Carroll, Stephen F.
APPLICANT: Elsenberg, David
TITLE OF INVENTION: THREE-DIMENSIONAL STRUCTURE OF
TITLE OF INVENTION: BACTERICIDAL/PERMEABILITY-INCREASING PROTEIN
FILE REFERENCE: 1103/1103/US01
CURRENT APPLICATION NUMBER: US/08/879,565A
CURRENT FILING DATE: 1997-06-20
RUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: cholesteryl ester transfer protein (CETP) (Figure OTHER INFORMATION: 5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                    CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION UNMBER: 08/640,713
FILLING DATE: 01 May 1996 (01.05.96)
PRIOR APPLICATION DATA:
                                                                                                                                                                                  COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOTTWARE: Wordperfect 6.1

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 470
APPLICATION NUMBER: 08/802,967
FILING DATE: 21 February 1997 (21.02.97)
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION:
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                                                                                                                                APPLICATION NUMBER: US/09/171,969 FILING DATE: 01 May 1997 (01.05.97) CLASSIFICATION: 514
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                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                                                                                                                                                                                        75 State Street, Suite 2300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Thomas, Lawrence J.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                PLASMID-BASED VACCINE FOR TREATING ATHEROSCLEROSIS
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94.1%;
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Pred. No. 6.7e-06;
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US-09-171-969-2

: Sequence 2, Application US/09171969

; Patent No. 6284533
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: (INFORMATION FOR SEQ ID NO: 4:
                                                    APPLICATION NUMBER: 08/640,713
FILING DATE: 01 May 1996 (01.05.96)
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/802,967
FILING DATE: 21 February 1997 (21.02.97)
ATTORNEY, AGENT INFORMATION:
NAME: Leon R. Yankwich
NAME: Leon R. Yankwich
                                                                                                                                                                              CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US,
                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION:
NUMBER OF SEQUENCES:
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          NAME: 100.... 30,23
RECISTRATION NUMBER: 30,23
REFERENCE/DOCKET NUMBER: T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PAGES: 632 - 634
DATE: 18-JUN-1987
RELEVANT RESIDUES IN SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS: Drayna, Dennis, et al.
TITLE: Cloning and sequencing of human
TITLE: cholesteryl ester transfer cDNA
                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                  SOFTWARE:
                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                      COUNTRY: USA
ZIP: 02109-1807
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Leon R. Yankwich REGISTRATION NUMBER: 3
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327
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75 State Street, Suite 2300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Thomas, Lawrence J.
                                                                                                                                                                                                                                                                    WordPerfect 6.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Amino acid sequence of mature human CETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                Floppy disk
                                                                                                                                                                                                      01 May 1997 (01.05.97)
N: 514
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                                             30,237
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                              TCS 414.1 PCT (05872)
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Pred. No. 6.8e-06;
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                                                                                                                        SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UNMBER: PCT/US92/07218
FILING DATE: 19920826
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/749,568
FILING DATE: 26-AUG-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/827,682
FILING DATE: 29-JAN-1992
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 07/827,682
FILING DATE: 29-JAN-1992
PRIOR APPLICATION DATA:
APPLICATION DATA:
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APPLICATION DATA:
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Best Local (
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NAME/KEY: rabbit CETP
LOCATION:
PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Vitiello, Maria A.
APPLICANT: Chesnut, Robert W.
TITLE OF INVENTION: HLA-RESTRICTED HEPATITIS B VIRUS CTL
TITLE OF INVENTION: EPITOPES
                             APPLICATION NUMBER: US 07/874,491
FILING DATE: 27-APR-1992
ATTORNEY/AGENT IMPORTANTION:
NAME: Smith, William M.
REGISTRATION NUMBER: 30,223
BREFERNIC FORCETS INTERES 30,223
                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
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TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                      COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release
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DATE: 1988
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS:
                  REFERENCE/DOCKET NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                            94105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                San Francisco
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15; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      : Nagashima, Mariko, et al
Cloning and mRNA tissue
distribution of rabbit
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One Market Plaza, Steuart Street Tower
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88.2%;
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Pred. No.
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ches 0;
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                                                                            PCT-US95-02121-110
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Best Local S
Matches 19
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 Query Match
Best Local Similarity
Matches 19; Conserv
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TELEFAX: 415-543-5043
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                TELEFAX: (415) 543-5043 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US 07/827,682
FILING DATE: 29-JAN-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/749,568
FILING DATE: 26-AUG-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                          MOLECULE TYPE:
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APPLICATION NUMBER:
FILING DATE: 27-APR-
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APPLICATION NUMBER:
FILING DATE: 26-AUG-
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CURRENT APPLICATION DATA:
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                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: FILING DATE: 16-FE
                                                                                                                                                                                                                                                       NAME: Parmelee, Steven W. REGISTRATION NUMBER: 31,9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM:
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les 19; Conserv
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TOPOLOGY: lin
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                                                                                                                      STRANDEDNESS:
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                               (206) 467-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                    26-AUG-1992
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                                                                                     peptide
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                48.5%;
                                                                                                                                                                                                                                                                                                                                                                                                       US 07/874,491
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Score 78.5; DB 5; Length 24; Pred. No. 2.2e-06; 1; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 24;
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                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 3
SEQUENCE CHARACTERISTICS:
LENGTH: 27 amino acids
TYPE: AMINO ACID
TYPE: AMINO ACID
                           Sequence 63, Application US/08446692 Patent No. 5759551 GENERAL INFORMATION:
                                                                                                                                                                                      Matches
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                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                       Best
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Vitiello,
APPLICANT: Chesnut, F
TITLE OF INVENTION: F
TITLE OF INVENTION: F
 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                       MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-326-2400
                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Smith, William M.
REGISTRATION NUMBER: 30,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 26-AUG-
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: One Partico
                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: FILING DATE: 199208
                                                                                                                             Local
                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
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Wang, Chang Yi
                                                                                                                                                                                      Conservative
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             Ladd, Anna
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                                                                                                                                                                                                                                                                                         linear
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Pred. No. 2.6e
1; Mismatches
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US-08-488-351A-63
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                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 63,
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Maria C.H. Lin
REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 1151
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212)415-8745
                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                  APPLICANT: Ladd, Anna
APPLICANT: Wang, Chang Yi
APPLICANT: Zamb, Timochy
TITLE OF INVENTION: Immunogenic LHRH peptide constructs
TITLE OF INVENTION: and synthetic universal immune stim
                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: Maria C.H. Lin
STREET: 345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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TITLE OF INVENTION; and synthetic universal immune stimulators for vaccines
NUMBER OF SEQUENCES: 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
FILING DATE: 7
CLASSIFICATION:
                                                                                                                                                                                                            CITY: New York
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OPERATING SYSTEM:
                                    APPLICATION NUMBER:
                                                                                                                                                           ZIP:
                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                           STATE:
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FILING DATE: 7-JUN-1995
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345 Park Avenue
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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             7-JUN-1995
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                                US/08/488,351A
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Pred. No. 5.5e-06;
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                                                                    Version #1
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APPLICATION NUMBER:

US 08/446,692

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APPLICATION NUMBER: 29.08/057

ELLING DATE: 27-APR-1992

CLASSIFICATION: 4.24

ATTORNEY/AGENT INFORMATION:

NAME: MATIA C.H. Lin

REGISTRATION NUMBER: 29,323

REFERENCE/DOCKET NUMBER: 1151

TELEFONMUNICATION INFORMATION:
TELEFONE (212)415-8745

TELEFAX: (516)751-6849

INFORMATION FOR SEQ ID NO: 63:
SEQUENCE CHARACTERISTICS:
LENGTH: 37 amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
              Query Match 47.8%;
Best Local Similarity 63.0%;
Matches 17; Conservative
                                                                                                                                                                                  ZIP: 10154-0053
COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARB: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/446,692
FILING DATE: 7-JUN-1995
CLASSIFICATION: 424
PULCONTON: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 35,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: Immunogenic LHRH peptide construct:
TITLE OF INVENTION: and synthetic universal immune stimulators for vaccines
NUMBER OF SEQUENCES: 114
CORRESPONDENCE ADDRESS:
ADDRESSES: Maila C.H. Lin
STREET: 345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Ladd, Anna Yi APPLICANT: Wang, Chang Yi APPLICANT: Zamb, Timothy
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                                                                                                                                                                                                                                                                                                                                                                                                               CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY:
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                                                                                                               1151-4146 US2
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Query Match 47.2%;
Best Local Similarity 85.0%;
Matches 17; Conservative
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; TOPOLOGY: linear; MOLECULE TYPE: peptide US-08-446-692-35
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                                                                                      US-08-488-351A-35
                                                                                                                                                              CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: MACIA C.H. Lin
REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 1151-4146 US2
TELECHOMUNICATION INFORMATION:
TELEPHONE: (212)415-8745
TELEPHONE: (212)415-8745
INFORMATION FOR SEQ ID NO: 35:
SEQUENCE CHARACTERISTICS:
LENGTH: 47 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 85.0
Matches 17; Conservative
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/229,275
FILING DATE: 14-APR-1994
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION UMSBER: US 08/057,166
FILING DATE: 27-APR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SONTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/488,351A
FILING DATE: 7-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Immunogenic LHRH peptide constructs
TITLE OF INVENTION: and synthetic universal immune stimulators for vaccines
NUMBER OF SECUENCES: 114
CORRESSPONDENCE ADDRESS:
ADDRESSEE: Maila C.H. Lin
STREET: 345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 424

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/446,692

FILING DATE: 7-JUN-1995
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APPLICANT: Wang, Chang Yi
APPLICANT: Zamb, Timothy
                                                                                                        MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 345 Pai
CITY: New York
STATE: NY
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ZIP: 10154-0053
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GY: linear
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Pred. No. 1.1e-05;
Score 76.5; DB 2;
Pred. No. 1.1e-05;
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                         DB 2;
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                    Length 47;
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0; Mismatches

Indels

Gaps

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COMPUTER TEADABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-TOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATE:
APPLICATION NUMBER: US/08/446.692
FILING DATE: 7-UN-1995
CLASSIFICATION: 424
APTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 29,323
REGISTRATION NUMBER: 29,323
REGISTRATION INFORMATION:
TELEPRIONE: (212)415-8745
INFORMATION: 61849
INFORMATION: 659.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-446-692-57
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; MOLECULE TYPE: peptide US-08-446-692-57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 57, Application US/08446692
Patent No. 5759551
                                                                                                                                                                                  Sequence 57, Applicat Patent No. 5843446 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Ladd, Anna APPLICANT: Wang, Chang Yi APPLICANT: Wang, Chang Yi APPLICANT: Zamb, Timothy TiTLE OF INVENTION: Inmunogenic LHRH peptide constructs TITLE OF INVENTION: and synthetic universal immune stimulators for vaccines NUMBER OF SEQUENCES: 114 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 37 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                    APPLICANT: Ladd, Anna
APPLICANT: Wang, Chang Yi
APPLICANT: Zamb, Timothy
TITLE OF INVENTION: Immunogenic LHRH peptide constructs
TITLE OF INVENTION: and synthetic universal immune stimulators for vaccines
NUMBER OF SEQUENCES: 114
              CORRESPONDENCE ADDRESS:
ADDRESSEE: Maria C.H. Lin
STREET: 345 park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 345 Pa
CITY: New York
STATE: NY
                                                                                                                                                                                                                                                                                                                 21 QYIKANSKFIGITELG 36
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                                                                                                                                                                                                                                                                                                                                                                                                            Match 46.98;
Local Similarity 93.88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 10154-0053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                        2 QYIKANSKFIGITEFG 17
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New York
                                                                                                                                                                                                                        Application US/08488351A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E: Maria C.H. Lin
345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SD
                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                            Score 76; DB 1;
Pred. No. 9.7e-06;
                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                            1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                               Length 37
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; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-488-351A-57
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 14
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; Patent No. 5759551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 93. Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 08/446,692
PILING DATE: 7-JUN-1995
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/229,275
FILING DATE: 14-APR-1994
CLASSIFICATION DATA:
APPLICATION UMBER: US 08/057,166
FILING DATE: 27-APR-1992
CLASSIFICATION: 424
PRIOR APPLICATION: 424
PRIOR APPLICATION: 424
APPLICATION UMBER: US 08/057,166
FILING DATE: 27-APR-1992
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: MALÍA C.H. LLD
REGERENCE/DOCKET NUMBER: 29,323
REGERENCE/DOCKET NUMBER: 1151-4146
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: (212)415-8745
TELEFAX: (516)751-6849
INFORMATION FOR SEQ ID NO: 5'
                                                                                                                                                                                                                                                                                     APPLICANT: Ladd, Anna
APPLICANT: Wang, Chang Yi
APPLICANT: Zamb, Timothy
TITLE OF INVENTION: Immunogenic LHRH peptide constructs
TITLE OF INVENTION: and Synthetic universal immune stimulators for vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FR PC POS_MS-DOS
OPERATING SYSTEM: PC-DOS_MS-DOS
                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 114
CORRESPONDENCE ADDRESS:
ADDRESSEE: Maria C.H. Lin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 37 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STATE: 1
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                                                                                                                                COUNTRY: US
ZIP: 10154-0053
                                                                                                                                                                            CITY: New York
STATE: NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21 QYIKANSKFIGITELG 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                     SOFTWARE:
                                                                                                                                                                                                                   STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 QYIKANSKFIGITEFG 17
ARE: PatentIn Release #1.0, Version #1.25 APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10154-0053
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                                                                                                                                                                                                                   345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SD
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Pred. No. 9.7e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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APPLICATION NUMBER: US/08/446.692
FILING DATE: 7-JUN-1995
CLASSIFICATION: 424
ATTOKNETY/AGENT INFORMATION:
NAME: Maria C.H. Lin
REGISTRATION NUMBER: 29,323
REFERENCE/ODCKET NUMBER: 1151-4146 US2
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212)415-8745
TELEFAX: (516)751-6849
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:
LENGTH: 27 maino acids
TYPE: mmino acid
TYPE: mmino acid
TYPE: mmino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 15
US-08-488-351A-13
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             COMPUTER READALE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION UNMEER: US/08/488,351A
FILING DATE: 7-JUN-1995
CLASSIFICATION LA74
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/446,692
FILING DATE: 7-JUN-1995
CLASSIFICATION NUMBER: US 08/229,275
APPLICATION NUMBER: US 08/229,275
FILING DATE: 14-APR-1994
CLASSIFICATION NUMBER: US 08/229,275
FILING DATE: 12-APR-1994
CLASSIFICATION DATA:
APPLICATION NUMBER: US 08/057,166
FILING DATE: 27-APR-1992
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/057,166
FILING DATE: 27-APR-1992
CLASSIFICATION: 424
APTORNEY/AGREY INFORMATION:
NAME: MASIA C.H. Lin
REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 1151-4146 US2
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 13, Application US/08488351A Patent No. 5843446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 44.1%;
Best Local Similarity 80.0%;
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Wang, Chang Yi
APPLICANT: Zamb, Timothy
TITLE OF INVENTION: Immunogenic LHRH peptide constructs
TITLE OF INVENTION: and synthetic universal immune stimulators for vaccines
NUMBER OF SEQUENCES: 114
CORRESPONDENCE ADDRESS:
ADDRESSED: Maria C.H. Lin
STREET: 345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 345 Par
CITY: New York
STATE: NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: US
ZIP: 10154-0053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ladd, Anna
(212)415-8745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; Score 71.5; DB 1;
; Pred. No. 3.7e-05;
0; Mismatches 1;
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; TELEFAX: (516)751-6849;
; INFORMATION FOR SEQ ID NO: 13:
; SEQUENCE CHARACTERISTICS:
LENGTH: 27 amino acids
; TYPE: amino acids
; TYPE: amino acid
TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-488-351A-13

Query Match
Best Local Similarity 80.0%; Pred. No. 3.7e-05;
Matches 16; Conservative 0; Mismatches 1; Indels 3; Gaps

Qy 2 QYIKANSKFIGITEET---EH 19
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1.

Search completed: June 18, 2002, 08:06:57 Job time: 66 sec

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Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 26
                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                          Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OM protein - protein search, using sw model
                                                                                                                                                                                                            Database :
                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                     PIR_71:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               June 18, 2002, 08:08:31; Search time 14.1! Seconds (without alignments)
177.060 Million cell updates/sec
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Gapop 10.0 , Gapext 0.5
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134
                                                                                                                                                                                                                                                                                                                                                                                                                                          283138 seqs, 96089334 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
SUMMARIES
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29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	80	7	6	σı	4	w	N	-		Result
23	23	23	24	24	24	24	24	24	24	24	24.5	25	25	25	25	25	25	25	26	26	26	26.5	27	27	27	28	28	28		Score
17.2	17.2	17.2	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9	18.3	18.7	18.7	18.7	18.7	18.7	18.7	18.7	19.4	19.4	19,4		20.1		0	20.9	20.9	20.9		Query Match L
17 :	14	-	20 :	20 2										20 2																Length DB
2 571864			2 A37984	A60822		PN0175	В 31769	A60834	≥ A01250		B61597	A60502	PC4030	S77989		C49048			C85947		S59492	A54077		S43632	A32521		A24417	A39504	1	ij
glutathione transf	seed storage prote	dermorphin (Lys-7)	ADP, ATP carrier pr	cytochrome P450 PB	hypothetical prote	glutathione transf	T-cell receptor de	angiotensin I prec	angiotensin precur	6-phosphofructokin	cytochrome P450 AL	myonexin - norther	rRNA endonuclease	cytochrome-c oxida	Ig H chain V-D-J r	T-cell receptor be	calmodulin kinase	heat shock protein	hypothetical prote	interphotoreceptor	formate dehydrogen	cytochrome b558 -	hypothetical prote	cytochrome-c oxida	hexokinase (EC 2.7	MUC1 enhancer bind	interphotoreceptor	octamer-binding pr		Description

45	44	43	42	41	40	39	38	37	36	35	34	ω ω	32	31	30
22	22	22	22	22	22	22	23	23	23	23	23	23	23	23	23
16.4	16.4	16.4	16.4	16.4	16.4	16.4	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2
20	20	19	14	12	11	7	26	26	25	24	24	24	23	21	19
N	N	N	N	N	N	-	N	N	2	N	ผ	N	N	2	Ν
A31049	S72501	B60822	A61002	C36201	PT0250	A61324	A42218	JT0965	S35926	A53357	T42257	PC2199	139681	T07683	I46654
calsequestrin, fas	protein kinase C i	cytochrome P450 UT	photosystem II oxy	1-aminocyclopropan	Ig heavy chain CRD	dermorphin - Rohde	early protein Sxl	cytochrome-c oxida	T-cell receptor ga	neurotoxin Bt-II -	phosphoprotein pho	alicyclic amine N-	exeG protein - Aer	proteinase inhibit	T-cell receptor de

## ALIGNMENTS

RESULT 1

in, Ku-like, 72K chain - human (fragment) ns (man) sequence\_revision 30-Dec-1991 #text\_change 30-Sep-1993

; Gould, H. 552-3059, 1991 )52-3059, 1991 and characterization of Ku-2, an octamer-binding protein relate 19504; MUID:91131605

Ħ

Qy 5 LLLQMDFGFPEHLL 18  :   ::    : : Db 5 LVLDMAQVLLDNYTFPENLM 24	Query Match 20.9%; Score 28; DB 2; Length 24; Best Local Similarity 35.0%; Pred. No. 6.5e+02; Matches 7; Conservative 5; Mismatches 2; Indels 6; Gaps 1;	A; Molecule type: protein A; Molecule type: protein A; Residues: 1-24 <fon> C; Superfamily: interphotoreceptor retinoid-binding protein C; Keywords: duplication</fon>	RIFONG, S.L.; Cook, R.G.; Alvarez, R.A.; Liou, G.I.; Landers, R.A.; Bridges, C.D.B. FEBS Lett. 205, 309-312, 1986 A;Title: N-terminal sequence homologies in interstitial retinol-binding proteins from A;Reference number: A91365; MUID:86301171 A;Accession. A2417	A24417 interphotoreceptor retinoid-binding protein - sheep (fragment) N.Alternate names: interstitial retinol-binding protein C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep) C:Date: 21-May-1988 #sequence_revision 21-May-1988 #text_change 21-Mov-1997 C:Acrossion: A24417	Qy 7 LOMDFGF 13  :        Db 11 LENDVGF 17  RESULT 2	Query Match  20.9%; Score 28; DB 2; Length 19; Best Local Similarity 71.4%; Pred. No. 5e+02; Matches 5; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
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R;Schirch, D.M.; Wilson, J.E.
Arch. Biochem. Biophys. 257, 1-12, 1987
A;Title: Rat brain hexokinase: amino acid
A;Reference number: A90080; MUID:87324917
A;Accession: A32521
A;Molecule type: protein
A;Residues: 1-21 <SCH>
C;Superfamily: human hexokinase I; hexokin
C;Keywords: ATP; glycolysis; phosphotrans;
                                                                                                                                                                                                C;Accession, R.; Kadenbach, B.
R;Freund, R.; Kadenbach, B.
Eur. J. Biochem. 221, 1111-1116, 1994
A;Title: Identification of tissue-specific
                                                               A;Genome: nuclear C;Superfamily: mar C;Keywords: liver
                                                                                                                 A;Accession: S43632
A;Molecule type: protein
A;Residues: 1-23 <FRE>
A;Note: the source is designated as Salmo
C;Genetics:
                                                                                                                                                                                                                                                                                  cytochrome-c oxidase (EC 1.9.3.1) chain VIIa, hepatic - rainbow trout (frag c:Species: Oncorhynchus mykiss (rainbow trout) C:Date: 20-Oct-1994 #sequence_revision 01-Nov-1996 #text_change 18-Jul-1997 C:Accession: S43632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hexokinase (EC 2.7.1.1) I peptide III - rat (fragment)
c;Species: Rattus norvegicus (Norway rat)
C;Date: 07-Jun-1990 *sequence_revision 07-Jun-1990 *text_change 12-Apr-1995
C;Accession: A3521
R;Schirch, D.M.; Wilson, J.E.
                                                                                                                                                                                                                                                                                                                                                             S43632
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A;Residues: 1-17;18-26 <ABE>
A;Experimental source: breast cancer cell line
C;Keywords: DNA binding; heterodimer
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                                                             Ly: mammalian cytochrome-c oxidase chain VIIa
liver; membrane-associated complex; mitochon
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C;Species: Alcaligenes eutrophus
C;Date: 27-Apr-1996 #sequence_revision 13-Mar-1997 #text_change 07-May-1999
C;Accession: $59492
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A.Title: Purification and physical
A.Reference number: A54077; MUID:94
A;Accession: A54077
A;Status: preliminary
                      R; Friedebold,
                                                                                    formate dehydrogenase alpha chain - Alcaligenes eutrophus (fragment)
                                                                                                                                                                                                                                                                                                                                                     A:Experimental source: peritoneal neutrophils A:Note: sequence extracted from NCBI backbone
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C;Species: Oryotolagus cuniculus (domestic rabbit)
C;Date: 06-Oct-1994 #sequence_revision 18-Nov-1994
C;Accession: A54077
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C;Keywords: chloroplast
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C:Species: chloroplast Odontella sinens
C:Date: 17-Feb-1998 #Sequence_revision
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A;Title: The Chloroplast Genome of a chlorophyll a+c- containing Alga, Odontella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C; Genetics:
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A; Residues: 1-26 < KOW>
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A; Accession: S78374
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    Odontella sinensis chloroplast

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  Bill, E.; , 561-568,
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Pred. No. 9e+02;
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Pred. No. 1e+03;
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  Trautwein,
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Right-photoreceptor retinoid-binding protein - pig (fragment)
Right-photoreceptor retinoid-binding protein
Right-photoreceptor retinoid-binding protein
Right-photoreceptor retinoid-binding protein
Right-photoreceptor retinoid-binding protein
C:Species: Sus scrofa domestica (domestic pig)
C:Daccession: B24417
Right-photoreceptor retinoid-binding proteins from 10
Right-photoreceptor retinoid-binding protein
C:Reywords: duplication
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                                                                                                                                                                                                                                                                                                                                                        A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-26 <STO>
A:Cross-references: GB:AED05174; NTD:g12517442; PIDN:AAG58039 1;
A:Experimental source: strain O157:H7, substrain EDL933
C:Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Title: Gename sequence of enterohemorrhagic Escherichia coli 0157:H7
A;Reference number: A85480; MUID:21074935; PMID:11206551
A;Accession: C85947
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                                                                                                                                       Query Match
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Best Local :
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5; Conservative
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5; Conser
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Pred. No.
                                                                                                                                       Score 26; DB 2; L
Pred. No. 1.5e+03;
3; Mismatches 5;
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Pred. No. 1.4e+03;
Mismatches 4
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7.8e+02;
1;
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K.; Apodaca
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Treell receptor beta chain V region (CDR3 junction, clone Vbeta20.1) - human (fragmen C. Speckes: Homo sapiens (man)
C. Date: 21.Jann194 #sequence_revision 18.Nov-1994 #text_change 30-May-1997
C. Accession: C49048
C. Sicud, M.; Kjeldsen-Kragh, J.; Suleyman, S.; Vinje, O.; Natvig, J.B.; Forre, O. Eur. J. Immunol. 22, 2413-2418, 1992
A. Title: Limited heterogeneity of T cell receptor variable region gene usage in juven A; Reference number: A49048; MUID:92387250
A. Accession: C49048
A. Status: preliminary; not compared with conceptual translation
A. Molecule type: mRNA
A. Residues: 1-16 <810>
A. Experimental source: patient Ev, IL-2R+ synovial T-cells
A. Note: sequence extracted from NCBI backbone (NCBIP:113265)
C. Keywords: T-cell receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 calmodulin kinase 2 - fission yeast (Schizosaccharomyces pombe) (fragment) C:Species: Schizosaccharomyces pombe C:Date: 21-Jan-2000 #sequence_revision 21-Jan-2000 #text_change 21-Jan-2000 C:Accession: T44936 R:Alemany, V: Alique, R. submitted to the EMBL Data Library, May 1996 A:Reference number: 222873 A:Accession: T44936 A:Status: preliminary; translated from GB/EMBL/DDBJ A:Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A:Molecule type: protein
A:Residues: 1-15 <CON>
A:Experimental source: liver
C:Keywords: heat shock; phosphoprotein; stress-induced
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$71306
$71306
heat shock protein 90 - rat (fragment)
C:Species: Rattus norvegicus (Norway rat)
C:Date: 11-Mar-1998 *sequence_revision 17-Apr-1998 *text_change 17-Apr-1998
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C49048
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A;Title: Age-related deciline of rat liver multicatalytic proteinase activity and A;Reference number: $71306; MUID:96299287
A;Accession: $71306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: mRNA
A;Rosidues: 1-16 <ALE>
A;Cross-references: EMBL:U57982; PIDN:AAD09466.1
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Query Match
Best Local Similarity
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18.7%:
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Pred. No. 1.1e
4; Mismatches
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Pred. No. 1.2
0; Mismatches
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Pred.
  No.
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. 1.1e+03;
  DB 2;
1.2e+03;
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hes 0;
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Cytochrome-c oxidase (EC 1.9.3.1) chain VIIb - bigeye tuna (fragment)
C.Speckes: Thunnus obesus (bigeye tuna)
C.Speckes: Thunnus obesus (bigeye tuna)
C.Accession: S77989
C.Accession: S77989
C.Accession: S77989
C.Accession: S77980
A.Accession: S77
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C:Species: Mus musculus (house mouse)
C:Species: Mus musculus (house mouse)
C:Date: 02-Jun-1994 *sequence_revision 02-Jun-1994 *text_change 17-Mar-1999
C:Accession: PH1607
R:Levinson, D.A.; Campos-Torres, J.; Leder, P.
J. Exp. Med. 178, 317-329, 1993
A:Title: Molecular characterization of transgene-induced immunodeficiency in B-less mice
A:Reference number: PH1607
A:Rocession: PH1607
A:Rocession: PH1607
A:Rocession: PH1607
A:Residues: 1-17 CLEV>
A:Residues: immunoglobulin V region; immunoglobulin homology
C:Reywords: immunoglobulin
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Search completed: June 18, 2002, 08:13:49 Job time: 318 sec
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Best Local Similarity 40.0%;
Matches 4; Conservative
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Best Local Similarity 46.2%;
Matches 6; Conservative
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Perfect so Sequence:

ALIGNMENTS

P36215 P807409 P807610 P82610 P82005 P81383 P81383 P82037 P82037 P82037 P82031 P24925 P99507

9 solanum tub
0 candida alb
5 white spot
3 ophiophagus
1 uperoleia 1
1 uperoleia 1
5 albizzia ju
7 canis famil
1 pseudomonas
6 solanum tub

rana catesb

ran tub

Title:

protein

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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IRBP_SHEEP
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YCXD_ODOS!
AUS1_LITRA
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ARCJ_HORSE
COXK_CANFA
ANGT_HORSE
MUZ1_LITFG
MUZ1_LITFG
SCX2_MESTA
AUG1_BATIA
AUG1_RAT
CAT2_LITCI
FARD_CALVO
ANP3_MELGA
APG1_RAT
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RP SEQUENCE.

RC TISSUE-Liver, and Heart;

RC TISSUE-Liver, and Heart;

RX MEDILINE-96092035; PubMed-8529022;

RA Linder D., Freund R., Kadenbach B.;

RA Linder D., Freund R., Kadenbach B.;

RY "Species specific expression of cytochrome c oxidase isozymes.";

Species specific expression of cytochrome c oxidase isozymes.";

Comp. Blochem. Physiol. 1128:461-469(1995).

CC -!- FUNCTION: FHIS PROTEIN IS ONE OF THE NUCLEAR-CODED POLYEEPTIDE

CC -!- FUNCTION: FHIS PROTEIN IS ONE OF THE NUCLEAR-CODED POLYEEPTIDE

CC -I- CATALYTIC ACTIVITY: 4 ferrocytochrome c + O(2) - 4 ferricytochrome

CC -!- SUBCELLULAR LOCATION: Mitochondrial inner membrane.

CC -!- SUBCELLULAR LOCATION: Mitochondrian inner membrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOXJ_SHEEP

COXJ_SHEEP

STANDARD; PRT; 24 AA.

Q 99TR30;

16-CCT-2001 (Rel. 40, Created)

71 16-CCT-2001 (Rel. 40, Last sequence update)

72 16-CCT-2001 (Rel. 40, Last sequence update)

73 16-CCT-2001 (Rel. 40, Last sequence update)

74 16-CCT-2001 (Rel. 40, Last anotation update)

75 Cytochrome c oxidase polypeptide VIIa-liver/heart, mitochondrial

76 CEC 1.9.3.1) (Cytochrome c oxidase subunit VIIa-L) (Fragment).

77 16-CCT-2001 (Rel. 40, Last sequence update)

78 COXTA2 OR COXTA1.

79 COXTA2 OR COXTA1.

70 COXTA2 OR COXTA1.

70 COXTA2 OR COXTA1.

71 CYTOCHROME COXIS.

72 Coxis aries (Sheep).

73 CELARIYOTA; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

74 COXTA2 OR COXTA1.

75 COXTA2 OR COXTA1.

76 COXTA2 OR COXTA1.

77 COXTA2 OR COXTA1.

78 COXTA2 OR COXTA1.

79 COXTA2 OR COXTA1.

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75 COXTA2 OR COXTA1.

76 COXTA2 OR COXTA1.

77 COXTA2 OR COXTA1.

78 COXTA2
RBP3.
Ovis aries (Sheep).
Eukaryota; Metazoa; (
Mammalia; Eutheria; (
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    Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Ruminantia; Pecora; Bovoldea
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AUG5_SOLTU
METE_CANAL
V23K_WSV
V23K_WSV
OXLA_OPHHA
UP21_UPEIN
UP25_UPEIN
UP25_UPEIN
UP25_UPEIN
SUCB_CANAA
DCMS_PSECA
SP13_SOLTU
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Result

Mismatches

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(IRBP)

(Interstitial

Pecora; Bovoldea

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c + 0(2) - 4 ferricytochrome

Database

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SOLUTION OF THE PROPERTY OF TH
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CONCMY STANDARD; PRT; 23 AA.
P80333;
01-OCT-1994 (Rel. 30, Created)
01-OCT-1994 (Rel. 30, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Cytochrome c oxidase polypeptide VIIa-liver (EC 1.9.3.1) (VIIIC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Fragment).

Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri)
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; E
Actinopterygii; Neopterygii; Teleostei; Buteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Oncor
                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                  "Identification of tissue-specific isoforms for subunits Vb and VIIa of cytochrome c oxidase isolated from raindow trout.";

Eur. J. Biochem. 221:111-1116(1994).
-I. FUNCTION: THIS PROTEIN IS ONE OF THE NUCLEAR-CODED POLYPEPTIDE CHAINS OF CYTOCHROME C OXIDASE, THE TERMINAL OXIDASE IN MITOCHONDRIAL ELECTRON TRANSPORT.
-I. CATALYTIC ACTIVITY: 4 ferrocytochrome c + O(2) - 4 ferricytochrome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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NON_TER 24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "N-terminal sequence homologies in interstitial retinol-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fong S.L., Cook
Bridges C.D.B.;
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Fong S.L., Cook R.G., Alvarez R.A., Liou G.I., Landers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bovidae; Caprinae;
NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                   Oxidoreductase; Inner membrane; Mitochondrion NON_TER 23 23
                                                                                                                                                                                                                                                                                                                                  c + 2 H(2)0.
-!- SUBCELLULAR LOCATION: Mitochondrial inner membrane.
-!- SIMILARITY: BELONGS TO THE CYTOCHROME C OXIDASE VII
PIR: S43632: S43632.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Liver;
MEDLINE=94237150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
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nes 6; Conser
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THE SPACE BETWEEN THE RETINA AND THE CONTIGUOUS LAYER OF PIGMENT
EPITHELIUM CELLS.
; A24417; A24417.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: IRBP SHUTTLES 11-CIS AND ALL TRANS RETINOIDS BETWEEN THE RETINOI ISOMERASE IN THE PIGMENT EPITHELIUM AND THE VISUAL PIGMENTS IN THE PHOTORECEPTOR CELLS OF THE RETINA.
SUBCELLULAR LOCATION: INTERPHOTORECEPTOR MATRIX THAT PERMEATES
                                                              LLQMDFGFPEHL 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LVLDMAQVLLDNYTFPENLM 24
        LFQAXNGIPVHL 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R., Kadenbach B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
7; Conserv
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                                                                                                                                                                                                                                                     AA;
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                                                                                                                                                                                                                                                        2635 MW;
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; Pred. No. 3.4e
5; Mismatches
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Pred. No. 4.6e+02;
Pred. No. 4.6e+02;
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. 3.4e+02;
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DT 01.NOV-1995
CACCONCALIN-1995
OC Bacteria; FO CA BACTERIA; SEQUENCE.
RA PAhl A., Scalarited (CC -1- FUNCTIO)
KW Antibiotic:
FT NON_TER
SQ SEQUENCE
                                                                                                                                                                                                                                      YCEAU PACE RESULT RIVER RESULT PACE RESULT PACE RESULT RIVER RESULT PACE RESUL
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__YCXD_ODOSI STANDARD; PRT; 26 AA.

P$9939;

01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
16-OCT-2091 (Rel. 40, Last annotation update)
16-OCT-2091 (Rel. 40, Last annotation update)
Hypothetical 3.2 kDa protein in RPOCC2-RPS2 intergenic region (ORF26B).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P80436;
01-NOV-1995
01-NOV-1995
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Submitted (MAR-1995) to the SWISS-PROT data band
--- FUNCTION: INVOLVED IN TRIOSTIN BIOSYNTHESIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chinoxalin-2-carboxylic acid activating enzyme (Fragmer Streptomyces triostinicus. Bacteria, Firmicutes; Actinobacteria; Actinobacteridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Antibiotic biosynthesis.
                                                                                                                                                                                                                                         EMBL; Z67753; CAA91747.1;
Chloroplast; Hypothetical
SEQUENCE 26 AA; 3137 M
                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kowallik K.V., Stoebe B., Schaffran I.,
"The chloroplast genome of a chlorophyl
Odontella sinensis.";
Plant Mol. Biol. Rep. 13:336-342(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chloroplast
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NCBI_TaxID=2839;
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  DGFIECLLMLNYKF
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6; Conserv
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                                                                                                                                                                                                                                            MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ., Schaffran I., Kroth-Pancic P., Freier U.; of a chlorophyll a+c-containing alga,
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                                                                                                        Pred. No. 5.3
4; Mismatches
                                                                                                                                   Score 27;
Pred. No.
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4.8e+02;
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01-OCT-1989
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Rozek T., Wegener K.L., Bowie J.H., Olver I.N., Carver J.F.
Wallace J.C., Tyler M.J.;
The antiblotic and anticancer active aurein peptides from
sustralian beil frogs Litoria aurea and Litoria raniformis
solution structure of aurein 1.2.*;
Eur. J. Blochem. 267:5330-5341(2000).

-1- EUNCTION: HAS NO ANTIMICROBIAL OR ANTICANCER ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IRBP_PIG
P12662;
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                        Vitamin
NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-0CT-1989 (Rel. 12, Created)
01-0CT-1989 (Rel. 12, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
Interphotogreeeptor retinoid-blinding protein (IRBP) (Interstitial
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Litoria raniformis (Southern
                                                                                                                                                       "N-terminal sequence homologies in interstitial retinol-
proteins from 10 vertebrate species.";
FEBS Lett. 205:309-312(1986).
-i- FUNCTION: IRBP SHUTTLES 11-CIS AND ALL TRANS RETINOL
THE RETINOL ISOMERASE IN THE PIGMENT EPITHELIUM AND
PIGMENTS IN THE PHOTORECEPTOR CELLS OF THE RETINA.
                                                                                                                                                                                                                                                                                                 Bridges C.D.B.;
                                                                                                                                                                                                                                                                                                                   Fong S.L.,
                                                                                                                                                                                                                                                                                                                                              MEDLINE-86301171;
                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sus scrota (Pig).
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                                                                PIR;
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    Er. B24417; barrensport.
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UENCE 25 AA; 2547 MW; 15C6169CD98AFC27
                                                                                         EPITHELIUM CELLS.
                                                                                                             SUBCELLULAR LOCATION: INTERPHOTOR THE SPACE BETWEEN THE RETINA AND
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7; Conser
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25 AA;
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2813
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pred.
4; Mis
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4E751DFA160231B7 CRC64
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a; Vertebrata; Euteleostomi;
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Submitted (FEB-1994) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: CATALYZES AN ELECTRONEUTRAL EXCHANGE BETWEEN ARGININE AND ORNITHINE TO ALLOW HIGH-EFFICIENCY ENERGY CONVERSION IN THE ARGININE DEIMINASE PATHWAY.
           Thunnus obesus (Bigeye tuna).
Eukaryota; Metazoa; Chordata; Craniata; Verto
Actinopterygii; Neopterygii; Teleostei; Eute
Acanthomorpha; Acanthopterygii; Percomorpha;
Scombridae; Thunnus.
                                                                                                                                        THUOB
                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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15-JUL-1998
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Scombridae; Thun NCBI_TaxID-8241;
                                                                  01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Cytochrome c oxidase polypeptide VIIb-heart (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pseudomonas
                                                                                                                                                                                                                                                                                                    Transport;
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SIMILARITY:
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7.2e+02;
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6.5e+02;
                                 Vertebrata; Euteleostomi;
Euteleostei; Neoteleostei;
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                                                                     (EC 1.9.3.1) (Fragment).
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-!- CATALYTIC ACTIVITY: 4 ferrocytochrome c + c + 2 H(2)O.
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Q9TRZ8;
16-OCT-2001
16-OCT-2001
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; (Mammalia; Eutheria; Carnivora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-Brain, and Heart;
MEDLINE-96092035; PubMed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A
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SEQUENCE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=97454291; PubMed=9310366; Arnold S., Lee I., Kim M., Song E
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6; Conserv
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IS PROTEIN IS ONE OF THE
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8.2e+02;
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Canis.
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Bukaryota; Viridiplantea; Streptophyta; Embryophyta; Trachce Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Caryophyllidae; Caryop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Thylakoid lumenal 22 kba protein (P22) (Fragment).
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NON_TER
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Angiotensinogen [Contains: Angiotensin I; Angiotensin SERPINA8 OR AGT.
                                                                                                                                                         SEQUENCE
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"The preparation, purification, and amino acid sequen
polypeptide renin substrate.";
J. Exp. Med. 106:439-453(1957).
-I- FUNCTION: IN RESPONSE TO LOWERED BLOOD PRESSURE,
CLEAVES ANGIOTENSIN I, FROM ANGIOTENSINGEN. ACE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Equus caballus (Horse)
Eukaryota; Metazoa; Cho
Mammalia; Eutheria; Pei
MCBI_TaxID=9796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ANGT_HORSE STANDARD;
PO1016;
PO1016;
21-JUL-1986 (Rel. 01, Creat
21-JUL-1986 (Rel. 01, Last
16-CCT-2001 (Rel. 40, Last
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Skeggs L.T. Jr., "The preparation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vasoconstrictor; Plasma; Serpin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14 PEHLLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7 PEHLLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CONVERTING ENZYME) THEN REMOVES A DIPEPTIDE TO YIELD THE PHYSIOLOGICALLY ACTIVE PEPTIDE ANGIOTENSIN II, THE MOST E PRESSOR SUBSTANCE KNOWN, WHICH HELPS REGULATE VOLUME AND BALANCE OF BODY ELUIDS.

TISSUE SPECIFICITY: MADE IN THE LIVER & SECRETED IN THE F. SIMILARITY: BELONGS TO THE SERPIN FAMILY.
                                                                                                                                                                                                                                                  SUBCELLULAR LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A01250; A01250.
rPro; IPR000215; Serpin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5; Conserv
   Similarity
6; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PS00284; SERPIN;
                                                                                                                                                                                                                                        h T., Pettersson U., Bystedt M., Schroeder W.P., (SEP-2000) to the SWISS-PROT data bank.
LLULAR LOCATION: Chloroplast; within the thylako
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   Conservative
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                                                                                                                                                                                   Thylakoid.
20 20
                                                                                                                                                         AA;
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Pred. No. Be+C
O; Mismatches
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ANGIOTENSIN
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   Mismatches
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                                   2e+03
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                                                                                                                                                                                                                                              thylakoid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tracheophyta;
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Best Local S
Matches 4
                                                                                                                                                                                                                                                                        SCX2_MESTA STANDARD; PRT; 24 AA.
P45668;
01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Neurotoxin II (BT-II) (Fragment),
Mesobuthus tamulus (Eastern Indian scorpion) (Buthus tamulus)
Eukaryota; Metazoa; Arthropoda; Chelicerata; Arachnida. Scorp.
Butholdea; Buthidae; Mesobuthus.
NCBI_TaxID-34647;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "The maculatin peptide from the skin glands of the tree frog Litoria genimaculata. A comparison of the structures and antibacterial activities of maculatin 1.1 and caerin 1.", J. Pept. Sci. 4:111-115(1998).

1. FUNCTION: SHOWS ANTIBACTERIAL ACTIVITY AGAINST B.CEREUS, L.INNOCULA, M. LUTEUS, S. AUREUS, S. EPTDERMISAND S. UBERIS.

1. TISSUE SPECIFICITY: SECRETED BY THE SKIN DORSAL GLANDS.

1. MASS SPECTROMETRY: MM-1878; MCTHOD-PAB.
AMPIADION.

AMPIADION.

1. AMIDATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MU21_LITGE
P82068;
                                                                                       *Purification, N-terminal sequence and structural characterization of a toxic protein from the Indian scorpton venom Buthus tamulus.";

Toxicon 32:325-338 (1994).

-1- EUNCTION: BINDS TO SODIUM CHANNELS AND INHIBITS THE INACTIVATION OF THE ACTIVATED CHANNELS, THEREBY BLOCKING NEURONAL TRANSMISSION THIS TOXIN IS ACTIVE AGAINST MANMALS. LD(50) IS 2.25 MG/KG IN MICROSUM SUBCUTANEOUS INJECTION.
                                                                                                                                                                                                              TISSUE=Venom;
MEDLINE=94287436; PubMed=8016854;
                                                                                                                                                                                                                                                                                                                                                                                                                                 MESTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE, AND MASS SPECTROMETRY.
MEDLINE-98281937; PubMed-9620615;
ROZEK T., Waugh R.J., Steinborner S.T.,
Wallace J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Litoria genimaculata (Green-eyed tree frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Hylidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAR-2002 (Rel. 41, Created)
01-MAR-2002 (Rel. 41, Last sequence up
01-MAR-2002 (Rel. 41, Last annotation
                Neurotoxin; Sodium channel inhibitor NON_TER 24 24
                                                                                                                                                                                               Lala K., Narayanan P.;
                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=95132;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Maculatin 2.1
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                                          SUBCELLULAR LOCATION: Secreted.
SIMILARITY: BELONGS TO THE ALPHA/BETA-SCORPION TOX:N FAMILY ALPHA-TOXIN SUBFAMILY.
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   2686 MW;
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50.0%;
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Pred No. 1.5e+03;
 DA1990C8FF8E2769 CRC64;
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                                                                                                        TRANSMISSION.
MG/KG IN MICE
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Search completed: June 18, Job time: 193 sec

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                            A FUJIMUTA Y., TITANI K., USAMI Y., SUZUKI M., OYAMA R., MATSUI T.,
A FUKUI H., Sugimoto M., Ruggeri Z.M.;
B Isochemistry 30:1957-1964(1991).
C -!- FUNCTION: THERE ARE TWO DISTINCT FORMS OF THE VON WILLEBRAND
C -!- FUNCTION: THERE ARE TWO DISTINGT FORM OF THE YOR WILLEBRAND
C -!- FUMUL H., SUGIMOTO FURNAL H., SUGIMOTO IN PROMOTING
C YUF BINDING TO PLATELETS.
C -!- SUBUNIT: MONOMER. WHE AND BOTROCETIN FORM A SOLUBLE COMPLEX.
C -!- SUBUNIT: MONOMER WHERE OF THE C-TYPE LECTIN FAMILY.

THE TENTERS TERMINATIVE TO OTHER MEMBERS OF THE C-TYPE LECTIN FAMILY.
                                                   Query Match
Best Local Similarity
Matches 4; Conser
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Best Local
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SEQUENCE
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01-AuG-1991 (Rel. 19, Last sequence update)
01-CTT-1994 (Rel. 30, Last annotation update)
Botrocetin (Platelet coagglutinin) (Fragment).
                                                                                                                                                          Glycoprotein;
VARIANT
                                                                                                                                                                                   InterPro; IPR001304; lectin_c.

PROSITE; PS00615; C_TYPE_LECTIN_1; PARTIAL.

PROSITE: PS50041; C_TYPE_LECTIN_2; PARTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lepidosauria; Squamata; Scleroglossa;
Viperidae; Crotalinae; Bothrops.
NCBI_TaxID=8724;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bothrops jararaca (Jararaca).
Eukaryota: Metazoa; Chordata; Cranlata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P22028;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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                         OMDEGEPEH
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                                                                                                                             25 AA;
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                                                       Conservative
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80.0%;
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Pred. No.
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Pred. No. 2e+03;
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                                                                     .1e+03
                                                                                                                                                                                                                                                                                                                                                              the platelet coagglutinin
                                                                                Length 25;
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                                                       Indels
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Title:
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Maximum DB seq length: 26
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Maximum Match 100%
Listing first 45 summaries
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SPTREMBL_19:*

Sp_bacterie

sp_bacterie

sp_bannan:*

sp_human:*

sp_huvert
6: sp_manna
7: sp_mhc:*
6: sp_manna
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6: sp_ba
10: sp_c)
11: sp_r
12: sp_r
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                                                                                                                                                                                                                                                                                                                                                 Score
          Query
          BLOSUM62
Gapop 10.0 , Gapext 0.5
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Copyright (c) 1993 - 2000 Compugen Ltd
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sp_bacteria:*
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sp_unclassified:*
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(9ugs1 homo sapien
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(9trc2 oryctolagus
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## ALIGNMENTS

OSTRR6 OS
DLIPID-BINDING PROTEIN  ata; Euteleostom1;  tolagus.  R., Hidaka H.;  ttified member of the  nily.*;  RC64;  Length 19;  Length 19;  ; Indels 0; Gaps 0;

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D 09TWH5

D 09TWH5;

C 09TWH5;

OT 01-MAY-2000 (TrEMBLrel. 13, Created)

DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)

DT 01-JUN-2000 (TrEMBLrel. 14, Last annotation update)

DT 04 (NDA GAP JUNCTION PROTEIN (FRAGMENT).

OS Heliothis virescens (Noctuid moth) (Owlet moth).

OC Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Ins.

OC Pterygota; Neoptera; Endopterygota; Lepidoptera; Glossat

OC Pterygota; Noctuidae; Heliothiae; Heliothis.
  RESOLT
Q9TWH5
ID Q9TWH5
PT 0
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EMBL, U62901, AAB62742.1; ...
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01-FEB-1997 (TrEMBLrel.
01-NOV-1998 (TrEMBLrel.
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Mammalia; Eutheria;
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Bacteria: Spirochaetales: Spirochaetaceae: Borrelia
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SEQUENCE.
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01-0CT-2000 (TrEMELrel. 15, Last sequence update)
01-UN-2001 (TrEMELrel. 17, Last annotation update)
GAP JUNCTION SUBUNIT PROTEIN CONNEXIN37 (FRAGMENT).
                           SHOWLING (DEC-1999) to the EMBL; AL035398; CAB63074.1; NON TER 1
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
D7995117.4 (NOVEL PROTEIN SIMILAR TO GS2) (FRAGMENT).
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01-MAY-2000
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Mammalia; Eutheria;
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Mammalia; Eutheria;
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                                                                                                                                                                       Barlow K
                                                                                                                                                                                                                     SEQUENCE
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MBL; AF216831: AAF91222.1; -.
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1; Mismatches
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Pred. No. 8.9e
4; Mismatches
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Catarrhini; Hominidae;
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Q958E1,
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation updat
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Q9TR07;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TREMBLrel. 13, Last sequence update)
CALCYCLIN-ASSOCIATED PROTEIN PEPTIDE L-8, CAP-50-ANNEXIN.
Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eureleostomi;
Mammalia; Eutheria; Cetariiodactyia; Ruminantia; Pecora; Bovoidea,
Bovidae; Bovinae; Bos.
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Capsicum annuum (Bell pepper).

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;

Asteridae; euasterids I; Solanales; Solanaceae; Capsicum.
                                                                                                                                                                                                                                                                                  "Plant annexin form homodimer during aggregation."; Biochem. Mol. Biol. Int. 35:749-755() SEQUENCE 22 AA; 2465 MW; A36D11A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mizutani A., Usuda N., Tokumitsu H., Minami H. Kobayashi R., Hidaka H.; "CAP-50, a newly identified annexin, localizes fibroblast 3Y1 cells.";
J. Biol. Chem. 267:13498-13504(1992).
SEQUENCE 14 AA; 1446 MW; C8322EB96DD9C6C6
                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=95353219; PubMed=7627125; Hoshino T., Mizutani A., Chida M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID-4072;
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                                                                                                                                                                                                                                                                                      MW; A36D11A1FE311F0F
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ng Ca(2+)-dependent liposome
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1e+03;
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1.2e+03;
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Q1-MAY-1999
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QTP-BINDING
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J. Biol. Chem. 269:14007-14014(1994).
SEQUENCE 20 AA; 2198 MW; 2301B618163DA419 CRC64;
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01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
HYPOTHETICAL 3.1 KDA PROTEIN.
Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Ve
Mammalia; Eutheria; Lagomorpha; Leporidae;
                                                                                                                                                                                                                                                                                                                                                                                                           Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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01-MAY-2000 (TREMBLIEL 13,
01-JUN-2000 (TREMBLIEL 14,
HEMOPROTEIN P-30 (FRAGMENY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Strausberg R.;
Submitted (APR-2001) to the
EMBL; BC005613; AAH05613.1;
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Mammalla; Eutheria; Rodentia;
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PROTEIN (FRA
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Last annotation updat
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Sciurognathi; Muridae;
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No. 2.2e+03;
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Q9K3B4;
01-OCT-2000 (7
01-OCT-2000 (7
01-MAR-2001 (7
HYPOTHETICAL 1
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01-DEC-2001
01-DEC-2001
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                           01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
HYPOTHETICAL 1.5 KDA PROTEIN (FRAGHENT).
Enterococcus faecium (Streptococcus faecium).
Bacteria; Firmicutes; Bacillus/Clostridium group; E
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Enterococcus.
NCBI_TaxID=1352;
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Mammalia; Eutheria;
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Pred. No. 2.3e
4; Mismatches
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Pred. No. 5.6e
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EMBL; AF203405; AAF70560.1;
EMBL; AF203405; AAF70562.1;
EMBL; AF203407; AAF70564.1;
EMBL; AF203407; AAF70568.1;
EMBL; AF203409; AAF70574.1;
EMBL; AF203413; AAF70576.1;
EMBL; AF203414; AAF70578.1;
EMBL; AF203414; AAF70578.1;
EMBL; AF203415; AAF70580.1;
EMBL; AF203416; AAF70580.1;
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STRAIN=VARIOUS STRAINS; TRANSPOSON-TN5382;
MEDLINE-20307504; PubMed-10846225;
Dahl K.H., Lundblad E.W., Roekenes T.P., Ol
"Genetic linkage of the vanB2 gene cluster
resistant enterococci and characterization
sequences.";
Microbiology 146:1469-1479(2000).
                                                                                                                                                                                                                                                                                                                                                                                                              Q9L8H6 PRELIMINARY; PRT; 12 AA.
Q9L8H6; Q9L8H7; Q9L8H2;
Q1-CCT-2000 (TYEMBLIFE). 15, Created)
01-CCT-2000 (TYEMBLIFE). 15, Last sequence update)
01-JUN-2001 (TYEMBLIFE). 17, Last annotation update)
HYPOTHETICAL 1.5 KDA PROTEIN (FRAGRENY).
Enterococcus faecalis (Streptococcus faecalis).
                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
STRAIN-TUH7-54, TUH4-67, AND TUH1-75; TRANSPOSON-TN5382;
MEDLINE-20307504, PubMed-10846225;
Dahl K.H., Lundblad E.W., Roekenes T.P., Olsvik O., Sund "Genetic linkage of the vanB2 gene cluster to Tn5382 in
  Q9L8H8
                                                                                                                                                                                                                  Microbiology 146:1469-1479(2000).
EMBL, AF203411; AAF70572.1; --
EMBL; AF203408; AAF70566.1; --
EMBL; AF203404; AAF70558.1; --
                                                                                                                                                                                                                                                                                                                                                                                                 Bacteria; Firmicutes; Bacillus/Clostridium
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                                                                                                                                                                                            Hypothetical protein
NON_TER 12
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                                                                                                                                                                                                                                                                     sequences.";
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1; Mismatches
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Pred. No. 1.5e+03;
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  PRT;
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1.5e+03;
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AC 0316HB;
DT 01-CCT-2000 (TrEMBLrel. 15, Last sequence update)
DT 01-CCT-2001 (TrEMBLrel. 17, Last sequence update)
DT 01-UN-2001 (TrEMBLrel. 17, Last sequence update)
DE HYPOTHETICAL 1.5 KDA PROTEIN (FRAGMENT).

SENTETCOCCUS gallinarum.
OS Entercoccus gallinarum.
OX NCBI_TaxID=1353;
RN (11)
RP SEQUENCE FROM N.A.
RC STRAIN-THY17-16, THANSPOSON-TN-5382;
RR XEDLINE-20307504; PubMed-10846225;
RA DADI K.H., Lundblad E.M., Roekenes T.P., Olsvik O., Sundsfjord A.;
RT Genetic linkage of the van2 gene cluster to Tn-5382 in vancomycin resistant entercoccci and characterization of two novel insertion RT sequences.*;

NAF70570.1; .

NA HYPOTHETICAL 12
DR EMBL, AR203410, AAR70570.1; .

NAP70570.1; .

NAP70570.1; .

NAP70570.1; .

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NAPROSIDIAR SECUENCE 12 AA; 1476 MW; 1613207414D1EEAB CRC64;

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Sequence 12 AA; 1476 MW; 1613207414D1EEAB CRC64;

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Sequence 12 AA; 1476 MW; 1613207414D1EEAB CRC64;

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Sequence 12 AA; 1476 MW; 1613207414D1EEAB CRC64;

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Sequence 12 AB; 1476 MW; 1613207414D1EEAB CRC64;

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Sequence 12 AB; 1476 MW; 1613207414D1EEAB CRC64;

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Sequence 12 AB; 1476 MW; 1613207414D1EEAB CRC64;

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Sequence 12 AB; 1476 MW; 1613207414D1EEAB CRC64;

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Sequence 12 AB; 1476 MW; 1613207414D1EEAB CRC64;

Ouery Match
Sequence 12 AB; 1476 MW; 1613207414D1EEAB CRC64;
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Rabbit CETP immuno
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Human cholesteryl
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MAb anti-HBsAg bin	Target-receptor-b1	Peptide exhibiting	k in	SH2 domain binding	ne musc	#4870			geri	Transactivating pr	Peptide #9414 enco	Human bone marrow	ain ex	9	hic la	Peptide #13. Synt	Fibronectin bindin	ס	Human IL-1 recepto	Lecithin:cholester	Lecithin:cholester	Lecithin:cholester		ronecti	ש	Endogenous TCR alp	Interferon-alpha2	PPPPY motif contai	Human secreted pro	of	5	ST se	Human secreted pro

## ALIGNMENTS

AAW06128 RESULT

AAW06128 standard; Peptide;

26 ⋧

07-FEB-1997

(first entry)

AAW06128;

Cholesteryl ester transfer protein; CETP; antigen; vaccine; cardiovascular disease; atherosclerosis; B-cell epitope. 01-MAY-1996; 07-NOV-1996 WO9634888-A1 Human cholesteryl ester transfer protein C-terminal B-cell epitope. Rittershaus CW, (TCEL-) T CELL 01-MAY-1995; Homo sapiens 1996-506103/50. SCI INC. 95US-0432483 96WO-US06147 Thomas Ę

Human CETP immunog
Rabbit CETP immuno
Human Ch-1

Cholesteryl ester transfer protein B cell epitope linked to T cell epitope - used to generate vaccine to regulate CETP activity for decreasing the risk of developing a cardiovascular disease e.g.

Human cholesteryl Human cholesteryl Human/Rabbit CETP

atherosclerosis

8×5555555555555

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RESULT
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      Query Match
Best Local S
Matches 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A B-cell epitope (AAW06128) comprising the C-terminal 26 amino acids of human liver mature cholesteryl ester transfer protein (CETP) (see also AAW06127) is involved in a neutral lipid binding or a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 5;
cholesteryl ester transferase protein (CETP).

The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibodies to lessen the transfer of cholesteryl esters from high density lipoprotein (HDL). The method can provide an autogenic immunological process for lessening that transfer of cholesteryl esters from HDL particles and for increasing the cholesterol concentration of a mammal whose blood also contains cerp. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/LDL cholesterol ratios. method ann have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CETP; cholesteryl-ester transfer protein; recombinant DNA vaccine; antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration;
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                                                                                                                                                                                                                                                    Claim
                                                                                                                                                                                                                                                                                         New recombinant DNA vaccines
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                                                                                                                                                                                                           sequence represents an immunogenic fragment of the rabbit
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                                                                                                                                                                                                                                                    15; Page 85; 99pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            dyslipoproteinaemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  peptide; 26
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Pred. No. 1.2e-13;
); Mismatches 0;
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AAY91
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
The invention relates to novel promiscuous T helper cell epitopes (Th), CC and immunogenic peptides comprising the The pitopes of the invention CC along with B cell epitopes. The The pitopes and peptide immunogens CC containing them, are used to induce a T helper cell response, Specifically against plasmodium falciparum, cholesteryl ester transport CC specifically against plasmodium falciparum, cholesteryl ester transport CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC infections (HIV, foot-and-mouth disease or malaria); for cancer CC immunotherapy; for inhibition of the action of luteinising hormone CC releasing hormone (LHRH) for contraception, treatment of hormone CC releasing hormone (LHRH) for contraception, treatment of hormone CC treating allergies or arteriosclerosis. Incorporation of a promiscuous CC treating allergies or arteriosclerosis. Incorporation of a promiscuous CC improves capacity to induce a strong T helper cell-mediated immune CC antigen. The can replace carrier proteins and pathogen-derived T helper CC epitopes. Sequence AAY91121 represents a promiscuous T helper epitope from the measles virus F (MVF) protein and sequences AAY91122-Y91142,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hepatitis B virus surface antigen; HBV; Immunogenic; B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IqE; anti-allergic; plasmodium falciparum; circumsporozoite; antimalarial; CETP; cholesteryl ester transport protein; anti-arteriosclerotic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY91228 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Promiscuous T-cell epitope; measles virus F protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human cholesteryl transport protein (CETP) peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY91228;
                                                                                                                                                                                                                                                                                                                                                                                                     New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-DEC-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                          Claim 10; Page 49; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (UNBI-) UNITED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20-JUN-1998;
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                                                                                                                                                                                                                                                                                                                                                                                           immune deficiency virus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BIOMEDICAL INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         peptide;
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Pred. No. 1.2e
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20;
-13;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    from hepatitis B virus (HBV) surface antigen, and sequences AAY91144-Y91155 are synthetic epitopes derived from this HBV epitope. AAY91144-Y91156 are synthetic epitopes derived from this HBV epitope. AAY91156-Y91196, AAY9127 and AAY91244-Y91244 are antigenic peptides comprising an LHRH sequence joined to a promiscuous Th epitope. AAY91197 is the LHRH target antigenic peptide used in these LHRH antigenic peptides. AAY91200 is somatostatin, and AAY91201-Y91207 are antigenic peptides comprising somatostatin and a Th epitope. Somatostatin peptides comprising somatostatin and a Th epitope. Somatostatin and antigenic site, and AAY91203-Y90211 are MYH Th human CD4 CDR2-like domain antigenic site, and AAY91203-Y90211 are MYH Th
         Glenn K,
                                                                                            01-APR-1999
                                                                                                                                  Oryctolagus
                                                                                                                                                         pro-atherogenic
                                                                                                                                                                 antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration;
                                                                                                                                                                                    CETP; cholesteryl-ester transfer protein; recombinant DNA vaccine;
                                                                                                                                                                                                           Rabbit CETP immunogenic fragment.
                                                                                                                                                                                                                                  08-JUL-1999
                                                                                                                                                                                                                                                                          AAY13802 standard;
                              (MONS ) MONSANTO CO
                                                  19-SEP-1997;
                                                                      17-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY91226 and AAY91245-Y91246 represent synthetic Th epitopes based on MYF Th epitope. Sequence AAY91143 represents a promiscrous Th epitope
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         Needleman P
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ilarity 100.0%;
Conservative (
                                                                                                                                                                                                                                (first entry)
                                                 97US-0934367
                                                                      98WO-US19366
                                                                                                                                                        dyslipoproteinaemia.
                                                                                                                                                                                                                                                                         peptide;
                                                                                                                                                                                                                                                                                                                                                                       0,
                                                                                                                                                                                                                                                                                                                                                                   Score 134; DB 21;
Pred. No. 1.2e-13;
"''matches 0;
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RESULT
AAY91231
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Best Local S
Matches 23
                                                                                                                                                                                                                                                                                                                                                                Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope luteinising hormone releasing hormone; LHR; contraceptive; antican somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMD foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CETP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibodies to lessen the transfer of cholesteryl esters from high density lipoprotein (HDL). The method can provide an autogenic immunological process for lessening the transfer of cholesteryl esters from HDL particles and for increasing the HDL cholesterol concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/DL cholesterol ratios. The method can have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.
                                   Claim 10; Page 62; 129pp; English
                                                                          New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis
                                                                  or human immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI;
                                                                                                                         WPI; 2000-160564/14.
                                                                                                                                                                               (UNBI-) UNITED
                                                                                                                                                                                                              20-JUN-1998;
                                                                                                                                                                                                                                         21-JUN-1999;
                                                                                                                                                                                                                                                                                                W09966957-A2
                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human cholesteryl transport protein (CETP) peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY91231;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY91231 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This sequence represents an immunogenic fragment of the rabbit cholesteryl ester transferase protein (CETP).
                                                                                                                                                                                                                                                                     29-DEC-1999.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                 immune deficiency virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Page 94; 99pp;
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                                                                                                                                                                                                                                                                                                                                                        ester
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                 BIOMEDICAL INC
                                                                                                                                                                                                           98US-0100412
                                                                                                                                                                                                                                         99WO-US13975
                                                                                                                                                                                                                                                                                                                                                     transport protein; anti-arteriosclerotic
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92.0%;
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Pred. No. 4.8e-11;
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                                                                                                                                                                                                                                                                                                                                                                                                                          epitope;
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invention relates to immunogenic peptides

peptides

novel promiscuous comprising the Th

T helper epitopes

cell epitopes (Th), of the invention

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RESULT
AAY13815
ID AAY1
XX
AC AAY1
XC AAY1
XX
DT 08-J
XX
XX
AC RAbb
XX
KW CETP
KW anti
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    immunotherapy; for inhibition of the action of luternising hormone releasing hormone (LHRH) for contraception, treatment of hormone-dependent cancer, prevention of boar taint in meat, and immunocastration); for promoting the growth of animals; or for treating allergies or arteriosclerosis. Incorporation of a promiscuous the functional in a promiscuous the promiscu
CETP; cholesteryl-ester transfer protein; recombinant DNA vaccine; HDL; antibody production; cholesteryl ester transfer; therapy;
                                                                                                                                                                                                                             AAY13815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY91198 and AAY91199 are respectively an immunostimulatory invasin protein epitope from Yersinia species, and hinge spacer peptide, bowhich may optionally be used in the antigenic peptides of the
                                                                                                  Rabbit CETP
                                                                                                                                                            08-JUL-1999
                                                                                                                                                                                                                                                                                       AAY13815 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                            23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                               immunogenic fragment.
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                                                                                                                                                            (first entry)
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                                                                                                                                                                                                                                                                                   peptide;
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92.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. 4.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .8e-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 26;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               peptide, both of of the
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                                                                                                                                                          CETP; cholesteryl-ester transfer protein; recombinant DNA vaccine; HDL; antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  high density lipoprotein; HDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
           19-SEP-1997;
                                      17-SEP-1998;
                                                                01-APR-1999
                                                                                         W09915655-A1
                                                                                                                    Homo sapiens
                                                                                                                                               pro-atherogenic
                                                                                                                                                                                                                                             08-JUL-1999
                                                                                                                                                                                                                                                                                               AAY13821 standard; peptide; 22 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     short-term effects of the small molecule drugs now available
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cholesteryl ester transferase protein (CETP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This sequence represents an immunogenic fragment of the rabbit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 75; 99pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New recombinant DNA vaccines
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                                                                                                                                                                                                                 CETP immunogenic fragment.
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           97US-0934367
                                      98WO-US19366
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                                                                                                                                               dyslipoproteinaemia
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Matches 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cholesteryl ester transferase protein (CETP).

The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibodies to lessen the transfer of cholesteryl esters from high density lipoprotein (HDL). The method can provide an autogenic immunological process for lessening the transfer of cholesteryl esters from HDL particles and for increasing the HDL cholesteryl concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/LDL cholesterol ratios. The method can have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.
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                                                                                                                                                                                                                                                                                                   CETP; cholesteryl-ester transfer protein; recombinant DNA vaccine; antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration;
             cholesteryl ester transferase
                      This sequence represents an immunogenic fragment of the rabbit
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                                                                                                                                                                                                                                                                                          pro-atherogenic
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                                                                                                                                                                                                                                                                                                                                                     Rabbit CETP immunogenic fragment.
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ster transferase protein (CETP).
relates to recombinant DNA vaccines that contain DNA
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     The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against Plasmodium falciparum, cholesteryl ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer immunotherapy; for inhibition of the action of luteinising hormone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  encoding CETP, which can be used for producing antibodies to lessen the transfer of cholesteryl esters from high density lipoprotein (HDL). The method can provide an autogenic immunological process for lessening the transfer of cholesteryl esters from HDL particles and for increasing the HDL cholesterol concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/LDL cholesterol ratios, method can have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.
                                                                                                                                                                                                                                                                                                        WPI;
                                                                                                                                                                                                                                                                                                                                          Wang
                                                                                                                                                                                                                                 New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis or human immune deficiency virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope luteinising hormone releasing hormone; LHRH; contraceptive; antican somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMD foot and mouth disease virus; immunoglobulin E; ISE; anti-allergic; plasmodium falciparum; circumsporozoite; antimalarial; CETP; cholesteryl ester transport protein; anti-arterioscierotic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic; B-cell
                                                                                                                                                                                                     Claim 10; Page
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                                                                                                                                                                                                                                                                                                                                                                                                               20-JUN-1998;
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treating allergies or arteriosclerosis. Incorporation of a promiscuous Th (functional in genetically diverse subjects) into an immunocam

for promoting the growth of animals;

or

dependent cancer, prevention of boar taint in meat, and immunocastration); for promoting the growth of animals;

Th (functional in genetically diverse subjects) into an immunogen improves capacity to induce a strong T helper cell-mediated immune

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RESULT 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                peptides comprising somatostatin and a Th epitope. Somatostatin a limmunogens may be used to promote growth in livestock. AAY91208 is a human CD4 CDR2-like domain antigenic site, and AAY91209-Y90211 are MVH the epitope/CD4 CDR2 antigenic peptides which may be used to prevent HIV infection of T cells. AAY90212 is a modified version of a human JqE (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are Th epitope/IgE CH3 antigenic peptides which may be used in the treatment of allergies. AAY91220 is a peptide derived from foot and mouth disease virus (FMDV) and the control of the control
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             response, resulting in production of antibodies against a carget antigen. The can replace carrier proteins and pathogen-derived T helper epitopes. Sequence AAY91121 represents a promiscuous T helper epitope from the measles virus F (MVF) protein and sequences AAY91122-Y91142, AAY91226 and AAY91245-Y91246 represent synthetic Th epitopes based on MVF Th epitope. Sequence AAY91143 represents a promiscuous Th epitope from hepatitis B virus (HBV) surface antigen, and sequences from hepatitis B virus (HBV) surface antiqen, and sequences
                                                                                                                                                                                                                             somatostatin; growth promotion; CDA and mouth diseases wires, immunication antiviral; embv; foot and mouth diseases wires, immunication.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY91144-Y91155 are synthetic epitopes derived from this HBV epitope. AAY91156-Y91196, AAY91227 and AAY91242-Y91244 are antigenic peptides
                                                                                                                                               cholesteryl ester
                                                                                                                                                                             foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic;
Plasmodium falciparum; circumsporozoite; antimalarial; CETP;
                                                                                                                                                                                                                                                                                hepatitis B virus surface antigen; HBV; immunogenic; B-cell luteinising hormone releasing hormone; LHRH; contraceptive;
                                                                                                                                                                                                                                                                                                                                                          Promiscuous T-cell epitope; measles virus F protein; MVF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VP1 capsid protein and AAY91221-Y91222 comprise this peptide and a Thepitope. AAY91223 is a Plasmodium falciparum circumsporozoite (CS) target
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Pred. No.
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4.4e-06;
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                                                                                                                                                                                                                                                                                                                 epitope;
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29-DEC-1999
                                                                   (UNBI-) UNITED BIOMEDICAL INC
                                                                     20-JUN-1998;
                                                                     98US-0100412
                                                                       99WO-US13975
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New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis or human immune deficiency virus

Claim 10; Page 62; 129pp; English.

CC AAV91154-Y91195 Are youtheric epitopes derived from this HBV epitope.
CC AAV91144-Y91195 are synthetic epitopes derived from this HBV epitope.
CC AAV91154-Y91195 ARY91227 and AAV91242-Y91244 are antigenic peptides.
CC comprising an LHRH sequence joined to a promiscuous Th epitope. AAV91197
CC is the LHRH target antigenic peptide used in these LHRH antigenic
CC peptides. AAV91200 is somatostatin, and AAV91201-Y91207 are antigenic
CC peptides comprising somatostatin and a Th epitope. Somatostatin
CC immunogens may be used to promote growth in livestock. AAV91208 is a
CC infection of T cells. AAV90212 is a modified version of a human IgE
CC (immunoglobulin E) CH3 domain, and AAV91213-Y90219 are Th epitope/IgE CH3
CC (immunoglobulin E) CH3 domain, and AAV91213-Y90219 are Th epitope/IgE CH3
CC (immunoglobulin E) CH3 domain, and AAV91213-Y90219 are Th epitope/IgE CH3
CC (immunoglobulin E) CH3 domain, and AAV91213-Y90219 are Th epitope/IgE CH3
CC (immunoglobulin E) CH3 domain, and AAV91213-Y90219 are Th epitope/IgE CH3
CC (immunoglobulin E) CH3 domain, and AAV91213-Y90219 are Th epitope/IgE CH3
CC (immunoglobulin E) CH3 domain, and AAV91213-Y90219 are Th epitope/IgE CH3
CC (immunoglobulin E) CH3 domain, and AAV91213-Y90219 are Th epitope and and AAV91221-Y91232 comprise this peptide and a Th epitope. AAV91223 is a plasmodium falciparum circumsporzozoite (CS) target
CC (immunoglobulin E) CH3 and AAV91223-Y91241 are immunogens comprising The CC (Immunogens comprising AAV9125-Y91251
CC (Immunoglobulin E) CH3 and AAV9123-Y91241 are immunogens comprising The CC (Immunogens comprising B cell epitopes, and AAV91247-Y91251 and AAV9125-Y91257
CC (Immunoglobulin E) CH3 and AAV9123-Y91251 and AAV9125-Y91257
CC (Immunoglobulin E) CH3 and AAV91244-Y91251 and AAV9125-Y91257
CC (Immunoglobulin E) CH3 and AAV9124-Y91251 and AAV9125-Y91257 dependent cancer, prevention of a promoting the growth of animals; or for immunocastration); for promoting the growth of animals; or for treating allergies or arteriosclerosis. Incorporation of a promiscuous Th (functional in genetically diverse subjects) into an immunogen improves capacity to induce a strong T helper cell-mediated immune response, resulting in production of antibodies against a target antigen. Th can replace carrier proteins and pathogen-derived T helper epitopes. Sequence ANY91121 represents a promiscuous T helper epitope from the measles virus F (MVF) protein and sequences ANY91122-Y91142, ANY91226 and ANY91245-Y91246 represent synthetic Th epitopes based on MVF Th epitope. Sequence ANY91143 represents a promiscuous Th epitope from hepatitis B virus (HBV) surface antigen, and sequences and promiscuous Them. protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer immunotherapy; for inhibition of the action of luteinising hormone releasing hormone (LHRH) for contraception, treatment of hormone-releasing hormone (LHRH) for contraception (LHRH) for contracept The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against Plasmodium falciparum, cholesteryl ester transport optionally be used antigenic the

Sequence 16

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RESULT 1
AAW24294
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Matches 11
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The sequences given in AAW24292-94 were used in the method of the invention to stimulate an immune response to increase high density lipoprotein (HDL) cholesterol in a mammal exhibiting low levels of serum HDL. These peptides represent immunogenic epitopus of cholesteryl ester transfer protein (CETP). The method utilises the body's own immune system to lower CETP levels, thereby increasing the level of beneficial HDL cholesterol, preferably in serum. The method avoids the problems associated with the repeated administration of drugs which have undesirable side effects. This peptide represents a region of CETP which is common to both human and rabbit proteins.
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   AAB64886;
                                                    AAB64886 standard; Protein; 22 AA
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les 15; Conserv
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93.8%;
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Pred. No. 1.8e-05;
1; Mismatches (
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                                                                                                                                                                                                                                                                                                                        DB 18;
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and cells the genes are expressed in Examples of activities include:

Communomodulatory; antisclerotic; dermatological; immunosuppressive;

antinfilammatory; antisclerotic; dermatological; immunosuppressive;

communoprotectant; anticonvalsant; noctropic; antialzheimers;

communomatical; anticonvalsant; noctropic; antialzheimers;

communomatical; anticonvalsant; noctropic; antialzheimers;

communomatical; anticonvalsant; noctropic; antialzheimers;

communoprotectant; anticonvalsant; notropic; antialzheimers basociated

communoprotectant; and corrosis, systemic lupus erythematosus and

communoprotectant; and caucher's disease), cardiovascular diseases

communoprotectant; and caucher's disease), cardiovascular diseases

communoprotectant; and diseatic retinopathy), neurological disorders

compuscularisation and diseatic retinopathy), neurological disorders

communications of chorea, Alzheimer's disease and Parkinson's disease),

communications of communication and diseases and communication and

communications of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human: secreted protein: diagnosis; immunomodulatory; antisclerotic; dermatological; immunosuppressive; antiinflammatory; anti-HIV; immunostumiant; cytostatic; cardiant; vascular; anti-angiogenic; ophthalmological; neuroprotectant; nootropic; anticonvulsant; vulnerary; antialzheimers; antiparkinsonian; antimicrobial; immune disorder; multiple sclerosis; systemic lupus erythematosus; HIV; infection; hyperproliferative disorder; cancer; Gaucher's disease; wound healing; cardiovascular disease; Scinitar syndrome; Chaga's cardiomyopathy; coronary arteriosclerosis; anglogenic disorder; diabettc retinopathy; coronary arteriosclerosis; anglogenic disorder; diabettc retinopathy; coronary arteriosclerosis; anglogenic disorder; disease; regeneration; huntington's chora; Alzheimer's disease; Parkinson's disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The polynucleotide sequences given in AAF33213 to AAF33261 encode the human secreted proteins given in AB6482 to AAB64931. AAB64931 to AAB64931 represent human secreted polypeptide sequences and proteins homologous to them, which are given in the exemplification of the present invention. Human secreted proteins have activities based on the tissues and polypeptide the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nucleic acids encoding 49 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, Parkinson's disease and diabetic retinopathy - {\bf r}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-071147/08.
N-PSDB; AAF33217.
Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   secreted protein sequence encoded by gene 5 SEQ
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Query Match
Best Local Similarity
Matches 6; Conserv

Conservative

25.4%;

Score 34; DB 22; Pred. No. 1.9e+02; 1; Mismatches 3;

Length 22; Indels

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Query Match
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AAY12067
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                                                                                                                                                                                                                                                        AAX40826 to AAX41093 represent 5' expressed sequence tags (ESTs) for human secreted proteins, and encode the proteins given in AAY01602 and AAX11994 to AAX12260, respectively. The proteins given represent the signal peptide and an N-terminal fragment of a secreted protein. The nucleic acid sequences can be used for products for diagnosis and therapy. The proteins obtained may have cytokine activity, cell proliferation/differentiation activity, haematopolesis regulating activity, tissue growth regulating activity, haematopolesis regulating activity, themotactic/chemokinetic activity, haemostatic and thrombolytic activity, responsit constitution of the products and thrombolytic activity, responsit constitution of the products and thrombolytic activity, themotactic/chemokinetic activity, haemostatic and chrombolytic activity, themotactic/chemokinetic activity. The products activity, tumour inhibition activity or other activities. The products activity the activity activity.
                                                                                                                                                                 can be used in forensic, gene therapy and chromosome mapping procedures. The sequences can also be used for obtaining corresponding promoter sequences. The nucleic acids encoding the signal peptide can be used for directing extracellular secretion of a polypeptide or the insertion of a polypeptide into a membrane, or importing a polypeptide into
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New nucleic acids encoding human secreted proteins - obtained CDNA libraries prepared from kidney, fetal kidney, dystrophic muscle, muscle and heart tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; secreted protein; EST; expressed sequence tag; diagnosis; forensic; gene therapy; chromosome mapping; signal peptide; upstream regulatory sequence; cytokine activity; cell proliferation; differentiation; haematopolesis regulation; tissue growth regulation; reproductive hormone regulation; chemotactic; chemokinetic; haemostatic;
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                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 34; Page 500-501; 622pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25
                Score 34; DB 20;
pred. No. 2.2e+02;
1; Mismatches 8
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                    8;
                                                     Length 25;
                      Indels
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                                             Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-JAN-1982;
03-FEB-1983;
15-JUL-1985;
                                                                                                                                                         DNA unit having a nucleotide sequence which encodes it. Fref. the AA sequence consists of alpha and beta interferons. Pref. IF1 is (i) the 1-73 AA seq. of HuIFN-alpha-1 (and IF2 is the 74-166 AA seq. of HuIFN-beta-1) (see AAN30155, AAP30222); or (ii) the 1-41 AA seq. of HuIFN-alpha-61A (and IF2 is the 43-166 AA seq. of HuIFN-beta-1) (see AAN30160, AAP30227). Alternativeley IF1 is the amino terminal end of a beta-IF and IF2 is the carboxy terminal of an alpha-IF (esp. the 1-73 seq. of HuIFN-beta-1 and the 74-167 seq. of HuIFN-alpha-1 resp.) (see AAN30156, AAP30223). In the examples plasmids pGMS and pDM101/trp/beta-1 and p-alpha-61A were used (see AAN30151, AAN30152, AAN30157). Hinfi was used to digest the DMA sequences in the region of significant handicaps (see AAN30153, AAN30154, AAN30159), and the restriction fragments were ligated to form hybrid DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAP30225 standard; Protein; 12 AA
                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                Example; Fig 17; 61pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                           Multi:class hybrid interferon poly:peptide(s) - with restricted antiviral and cell growth regulatory activities
                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1983-723186/30.
N-PSDB; AAN30158.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mark DF, Creasey AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO8302461-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hybrid interferon; antiviral; therapy; cancer; tumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence of interferon (HulfN) -alpha-61A around amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-MAY-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAP30225;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (CETU-) CETUS CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-JAN-1983;
                         10 DEGEPE 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -
11111:
2 dfgfpq 7
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                                                                                                                                                                                                                                                                                                                                                     inventors claim a multiclass hybrid interferon polypeptide and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mgggiaesflcnflvsls 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MDFGFPEHLLVDFLQSLS
                                                                                                                                  12 AA;
                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82US-0340782.
83US-0463574.
85US-0755265.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 83WO-0900607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label- AA No. 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26
                                                                          Score 33;
Pred. No.
                                                             Mismatches
                                                                          DB 4;
1.4e+02;
                                                             0
                                                                                        Length 12;
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                                                             0;
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RESULT

Job time: 209 sec

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AAP80053

AAP80053

XX AAP8

AAAP8

AAP8

AAPA

AAP8

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Search completed: June 18, 2002, 08:17:21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    wulti-class hybrid IFN polypeptides having an AA sequence composed CC of 2 distinct subsequences are claimed. The plasmids used in the CC construction of huffw-alpha-61A-beta-1 hybrid are plasmids palpha61A and CC ppM101/trp/beta-1. Assembly of the palpha61A plasmid invovied replacing the 23 AA signal polypeptide of preinterferon CC with a 120Bp EcoRi/Sau3A promoter fragment E.coli trp promoter. CC operator, and trp leader ribosome binding site precoperator, encoding an CC arg initiation codon and using thadil site that was inserted, 59 cc quelectides 3'-end of the TGA translational stop codon, to insert the generator of the plasmid pBW11 (a deriv of pBR322 having a deletion between CC the Hindill and Pwull sites). The complete DNA sequence of the promoter cand gene fragments inserted between the EcoRi and Hindill sites of pBW11 (c is shown in AANBO049. The hybrid gene was constructed by taking advantage CC of the homologies between huffw alpha-61A & huffw beta-1 at around AA 40 c is shown in particular to the passer of the huffw alpha-61A bNA is ligated to the DNA gequence 3'-proximal to the DGEI restriction CC sequence 3'-proximal to the site of the huffw alpha-61A bNA is ligated to the DNA generator while preceiving the terminal to beta-1 restriction of the three passers of the province of the province of the plans of the batton of the both of the DGEI restriction of the translational to the site of both province of the province of the province of the province of the both of the
                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Multi-class hybrid interferon polypeptide(s) - having sequence from interferon-alpha-1 and sequence from interferon-beta-1 for restricted activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-JUL-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US4758428-A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAP80053;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence of human interferon (huIFN) alpha-61A gene around AA 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-NOV-1990
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1988-219882/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mark DF, Creasey AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-JUL-1985;
19-JAN-1983;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-JUL-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the two genes while preserving the translational reading frame of both.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example; Fig 17; 24pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (CETU ) CETUS CORP.
                                                                                                                                                                                                                                    10 DEGEPE 15
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                                                                                                                                                   |||||:
| dfgfpq 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12 AA;
                                                                                                                                                                                                                                                                                                                     Conservative
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83CA-0419758
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                                                                                                                                                                                                                                                                                                            24.6%; Score 33; DB 9; Length 12;
83.3%; Pred. No. 1.4e+02;
tive 1; Mismatches 0; Indels
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Result
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM protein - protein search, using sw model
                                                                                                                                                              ö
                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB
                                                                                                                                                              Score
          134
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seq length: 26
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1: /cgn2_6/ptodata/2/paa/vs
2: /cgn2_6/ptodata/2/paa/vs
3: /cgn2_6/ptodata/2/paa/vs
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5: /cgn2_6/ptodata/2/paa/vs
6: /cgn2_6/ptodata/2/paa/vs
6: /cgn2_6/ptodata/2/paa/vs
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Match
        100.0
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134
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:/cgn2_6/ptodata/2/paa/US083_COMB.pep:*
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Copyright (c) 1993 - 2000 Comp
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/cgn2_6/ptodata/2/paa/USO7_COMB.pep:*
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US-08-432-483-1
US-08-432-483A-1
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                      US-08-785-997-29
US-08-788-882-29
US-08-934-367-29
      US-08-945-289-1
                                                                                                                                                                                                                 SUMMARIES
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                Sequence 106, App
Sequence 1, Appl1
Sequence 1, Appl1
Sequence 29, Appl
Sequence 29, Appl
Sequence 29, Appl
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Appli
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PCT-US00-14933-64	-09-950-083-4	-09-538-038-	-US01-14827-1	-60-169-842-4	US-09-675-509-22	US-08-482-454-3	-701-588	-US99-13975	588-1	-US99-13975	US-09-387-340-4	-09-386-	-08-934-36	US-08-788-882-4	ş	-09-387-340-	US-09-387-340-10	-09-386-591-	9-386-591-1	-08-934-367-3	-08-934-367-1	-882-	-882-1	-997-	8-785-997-	-588 - 1	7-340-5	-09-386-	4-367-5	US-08-788-882-50	US-08-785-997-50	PCT-US99-13975B-109	US-09-943-548-1	-09-943-33	-09-701-588-1	-09-387-340-29	-09-386-591-2
64, App	4435,	æ	13017,	4506	ი გე	3, App	e 1(	108, 7	e 107,	107,	Ф <u>4</u>	e 4	e 4	Ф <u>~</u>	e 4, a	e 34	e 10,	e 34,	e 10,	34,	e 10,	34,	10,	e 34,	10,	109,	50,	e 50,	e 50,	e 50,	e 50,	109,	e 1,	e 1, Appl	106,	e 29,	

## ALIGNMENTS

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RESULT 1

PCT-USS9-13975B-106

Sequence 106, Application PC/TUS9913975B

Sequence 106, Application PC/TUS9913975B

GENERAL INFORMATION:

APPLICANT: UNITED BIOMEDICAL INC., ET AL.

TITLE OF INVENTION: ARTIFICIAL THELPER CELL

TITLE OF INVENTION: EPITOPES AS IMMUNE STIMULATORS FOR SYNTHETIC

CORRESPONDENCE ADDRESS:

NUMBER OF SEQUENCES: 151

CORRESPONDENCE ADDRESS:

ADDRESSEE: MOJGAN & Finnegan, L.L.P.

STREET: 345 Park Avenue

CITY: New York

STATE: NY

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER WORD 97

COMPUTER: WORD 97

COMPUTER: WORD 97

COURRENT APPLICATION NUMBER: PCT/US99/13975B

FILING DATE: 21-JUNE-1999

LASSIFICATION DATA:

APPLICATION BATE: 20-JUNE-1998

ATTORNEY/ACENT INFORMATION:

NAME: Maria H. Lib
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RESULT 2
US-08-432-483-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: 212-758-480
TELEFAX: 212-751-6849
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: WordPerfect 6.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION: NAME: Leon R. Yankwich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Rittershaus, Charles, W.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER: 29,323
REFERENCE/FOCKET NUMBER: 11
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
                                                                                                           PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                           FEATURE:
                                                                                                                                                                                         ANTI-SENSE:
                                                                                                                                                                                                        MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: Chicago
                                JOURNAL: VOLUME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                           TITLE: Cholesteryl ester transfer cDNA
                                                                                                                                           NAME/KEY:
                                                                                                                                                         NAME/KEY:
                                                                                                                                                                                                                                                                                                                                 NAME: Leon R. Yankwich REGISTRATION NUMBER: 30,237
                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                             AUTHORS:
                                                                                                                             LOCATION:
                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                     LENGTH: 26 amino acids
                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
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                                                                                                                                                                                                                                                      amino acid
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   632-634
                                : Nature
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                                                                                          Drayna, Dennis, et al
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                                                                                                                                           human CETP
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                                                                              US-08-432-483A-1
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ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,237
REFERENCE/DOCKET NUMBER: 95
INFORMATION FOR SEQ ID NO: 1:
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Query Match
Best Local Similarity
Matches 26; Conserv
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Best Local
                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 1-May-19
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: WordPerfect 6.1 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM: MEDIUM TYPE: diskette
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Rittershaus, Charles W.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER
                                                                                                                                                                                                                                         PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                     FEATURE:
NAME/KEY:
                                                                                                                                                                                                                                                                                                                     ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
HYPOTHETICAL:
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CITY: Chicago
STATE: Illinoi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC
OPERATING SYSTEM:
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nes 26; Conserv
                                                                                                           PAGES: 632-634
DATE: 18-JUN-1987
                                                                                                                                                          VOLUME:
                                                                                                                                                                          JOURNAL:
                                                                                                                                                                                     TITLE: Cholesteryl ester transfer cDNA
                                                                                                                                                                                                                        AUTHORS:
                                                                                                                                                                                                                                                                       NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DATE: 18-JUN-1987
                                                                                           RELEVANT RESIDUES IN SEQ ID
                                                                                                                                           ISSUE
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                                                                                                                                                          : Nature
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                                                                                                                                                                                                                      Drayna, Dennis, et al
100.0%; Score 134; DB 8; llarity 100.0%; Pred. No. 1.5e-12; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                    Carboxyl terminal 26 amino acids human CETP
                                                                                                                                                                                                                                                                                                                                                                   Linear
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Pred. No. 1.5
D; Mismatches
                                                                                             NO:
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                              Length 26;
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   Indels
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US-08-788-882-29
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NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-10:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 29:
SEQUIENCE CHARACTERISTICS:
LENGTH: 26 amino acids
                                                                                Sequence 29, Application US/08788882 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 29, Application US/08785997 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/785,997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Needleman, Philip
APPLICANT: Glenn, Kevin
TITLE OF INVENTION: An Immunological Process for Increasing
TITLE OF INVENTION: the HDL Cholesterol Concentration
                  APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: peptide
PUBLICATION INFORMATION:
AUTHORS: Swenson, T. L.
                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: 120 SO
CITY: Chicago
STATE: IL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 60606
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 26 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                                                 CANT: Gamson, OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                      14318-14326
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120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                               Glenn, Kevin
Krul, Elaine
                                                                                                                                                                                                                                                  100.0%; Score 134; DB 11; ilarity 100.0%; Pred. No. 1.5e-12; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                    et al.,
J. Biol. Chem
                                                                 Needleman, Philip
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             Edward P.
An Immunological Process and Constructs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MON-101.0 6018/68346
                                                                                                                                                                                                                                                                                  Length 26;
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                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
                                                                                                                                                 APPLICANT: Needleman, Philip
APPLICANT: Glenn, Kevin
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: For Increasing the HDL Cholesterol Concentration by DNA
TITLE OF INVENTION: Vaccination
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
COMPUTER: IBM PC com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION: NAME: Gamson, Edward P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity 100.0%;
les 26; Conservation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS: Swenson, T. L. AUTHORS: et al., JOURNAL: J. Biol. Chem.
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
                                                                                  COUNTRY: U
ZIP: 60606
                                                                                                                           STREET: 120 SC
CITY: Chicago
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DATE: 1989
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264
                                                                                                                                                                                                                                                                                                             Application US/08934367
                                                                                                                                             E: Welsh & Katz, Ltd.
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Pred. No. 1.5e-12;
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   Version #1.30
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CURRENT APPLICATION DATA:

US/08/934,367

APPLICATION NUMBER: FILING DATE: CLASSIFICATION: 51

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TELEPHONE: (312)655-1500
TELEPAX: (312)655-1501
INFORMATION FOR SEO ID NO: 29:
SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
TYPE: amino acid
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Best Local Similarity
Matches 26; Conserv
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                                                                                 CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION UNMBER: 08/432
PILING DATE: May 1,1995
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,23
                                                REFERENCE/DOCKET NUMBER: 1
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NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PUBLICATION INFORMATION:
AUTHORS: Swenson, T. L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Rittershaus, Charles, W.
APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) ACTIVITY
                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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             SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
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OPERATING SYSTEM:
SOFTWARE: Word 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS: et al.,
JOURNAL: J. Biol. Chem.
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DATE: 1989
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                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
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ilarity 100.0%;
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linear
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Pred. No. 1.5e-12;
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; PAGES: 632-634
; DATE: 18-UUN-1987
; RELEVANT RESIDUES IN SEQ ID NO:
US-08-945-289-1
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Best Local Similarity
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APPLICANT: Needle
APPLICANT: Glenn,
                                                                                                                                                            REFERENCE/DOCKET NUMBER: MO
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
TELEPAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 29:
                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
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                                                                                                                                              SEQUENCE CHARACTERISTICS
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                                              MOLECULE TYPE: peptide PUBLICATION INFORMATION:
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VOLUME:
                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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CITY: Chicago
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                                                                                           LENGTH: 26 amino acids
TYPE: amino acid
TYPE: single
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                              FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
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              AUTHORS:
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                                  AUTHORS:
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120 South Riverside Plaza, 22nd Floor
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et al.,
J. Biol. Chem
                              Swenson, T. L.
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; DATE: 1989
US-09-387-340-29
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                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Gamson, Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1501
INFORMATION FOR SEQ ID NO: 29:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
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                                                          Matches
                                                                                      Query Match
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Best Local Similarity
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APPLICATION NUMBER: US
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CORRESPONDENCE ADDRESS:
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APPLICANT: Krul, Elaine
APPLICANT: Gamson, Edward P.
TITLE OF INVENTION: An Immun
TITLE OF INVENTION: for Incre
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PAGES: 1431
DATE: 1989
                                                                        Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 120 Sc
CITY: Chicago
                                                                                                                                                                                                                 AUTHORS: Swenson, T. L.
                                                                                                                                                                                                                                                                         STRANDEDNESS
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RDGFLLLQMDFGFPEHLLVDFLQSLS 26
                                                                      Similarity
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J. Biol. Chem.
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                                                        Conservative
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                                                                     100.0%;
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                                                     Score 134; DB 17;
Pred. No. 1.5e-12;
Mismatches 0;
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Pred. No. 1.5e-12;
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                                                                                 Length
                                                       Indels
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                                                     Gaps
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US-09-943-334-1
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; SEQUENCE DESCRIPTION: SEQ ID NO:
US-09-701-588-106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 10
US-09-701-588-106
                                                                                                                                                                                                                                                                                          Sequence 1, Application US/09943334 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                      APPLICANT: Rittershaus, Charles W.
APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVI
FILE REFERENCE: TCS-411.1P US-1; TCS-411.1P US-2
CURRENT APPLICATION NUMBER: US/99/943,334
CURRENT FILING DATE: 2001-08-30
CURRENT FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
                                                                                PRIOR FILING DATE: 1995-05-01
PRIOR APPLICATION NUMBER: PCT/US96/06147
PRIOR FILING DATE: 1996-05-01
PRIOR FILING DATE: 1997-10-17
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patentin version 3.
                                                              PRIOR APPLICATION NUMBER: 08/945,289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO: 106
SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
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NAME: MAYIA H. LIN
REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 11:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 10154-0054
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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ADDRESSEE: Morgan & Finnegan, L.L.P.
STREET: 345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: NOVEL LHRH
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FILING DATE: 29-NOV-2000
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: 212-758-48
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM: PC Windows SOFTWARE: Word 97
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 134; DB 21;
Pred. No. 1.5e-12;
; Mismatches 0;
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; OTHER INFORMATION: C - terminal 26 amino acids of Human CETP
US-09-943-334-1
                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             , OTHER INFORMATION: C - terminal 26 amino acids of Human CETP US-09-943-548-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Rittershaus, Charles W.
APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODILATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVITY
FILE REFERENCE: TCS-411.1P US-1; Tcs-411.1P US-2
CURRENT APPLICATION NUMBER: US/09/943,548
CURRENT FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR APPLICATION NUMBER: PCT/US/96/06147
PRIOR APPLICATION NUMBER: PCT/US/96/06147
PRIOR APPLICATION NUMBER: PCT/US/96/06147
PRIOR APPLICATION NUMBER: 08/945,289
PRIOR APPLICATION NUMBER: 08/945,289
PRIOR FILING DATE: 1997-10-17
NUMBER OF SEQ ID NOS: 9
SOFTWARE: PStentin version 3.1
SEQ ID NO 1
LENGTH: 26
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Best Local 9
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LENGTH: 26
                                                                                                                                                                                                                                                                                                      Sequence 109, Application PC/TUS9913975B GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Artificial Sequence
                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Morgan & Finnegan, L.L.P.
STREET: 345 Park Avenue
COMPUTER READABLE FORM:
KEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                      TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                COUNTRY:
                                                                                                                            CITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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                                                                 10154-0054
                                                                                                                          New York
                                                                                                        Ϋ́
                                                                                  USA
                                                                                                                                                                                                                   UNITED BIOMEDICAL INC., ET AL.
VENTION: ARTIFICIAL T HELPER CELL
VENTION: EPITOPES AS IMMUNE STIMULATORS FOR SYNTHETIC
VENTION: PEPTIDE IMMUNOGENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                                        151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 134; DB 23;
Pred. No. 1.5e-12;
Nismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 26;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 50, Application US/08785997 GENERAL INFORMATION:
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: 212-758-480
TELEFAX: 212-751-6849
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                   INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                    MEDIUM TYPE: Floppy disk
COMPUTER: ITBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 20-JUNE-1998 ATTORNEY/AGENT INFORMATION: NAME: Maria H. Lin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Needleman, Philip
APPLICANT: Glenn, Kevin
TITLE OF INVENTION: An Immunological Process for Increasing
TITLE OF INVENTION: the HDL Cholesterol Concentration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION: TELEPHONE: 212-758-4800
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APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                    TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
                                                                                                                                                                                      CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                    SEQUENCE CHARACTERISTICS:
   MOLECULE TYPE:
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SOFTWARE: Word 9
                                                                                                                                                                                                                                                         APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                               STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Match 87.3%;
Local Similarity 92.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                 TYPE: amino acid
                                                                                                                                                                       REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                               2 IP:
                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
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                    TOPOLOGY:
                               STRANDEDNESS:
                                                                                                                      TELEFAX:
                                                                                                                                   TELEPHONE:
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                                                                  LENGTH:
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                                                                  26 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                              USA
                                                                                                                    (312)655-1501
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                  linear
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peptide
                                 single
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                                                                                                                                                                                    29,381
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                                                                                                                                                                       MON-101.0 6018/68346
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Pred. No. 5.4e-10;
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                                                                                                                                                                                                                                                                                                            Version #1.30
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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM CC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/788.882
FILING DATE:
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: GAMSON, Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: 40N-102.0 6018/69242
TELEPHONE: (312)655-1500
TELEPHONE: (312)655-1500
TELEPHONE: (312)655-1501
INFORMATION FOR ESD ID NO: 50:
SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
TYPE: manino acids
TYPE: peptide
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US-08-788-882-50
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Search completed: June 18, 2002, 08:15:36 Job time: 215 sec
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                                                                                                                                                                                    Query Match 87.3%; Score 117; DB 11; Length 26; Best Local Similarity 92.0%; Pred. No. 5.4e-10; Matches 23; Conservative 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Needleman, Philip
APPLICANT: Glenn, Kevin
APPLICANT: Krul, Elaine
APPLICANT: Gamson, Edward P.
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: For Increasing the HDL Cholestero. Concentration
NUMBER OF SEQUENCES: 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: US
ZIP: 60606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: Chicago
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Title:
Perfect score:
Sequence:
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Maximum Match 100%
Listing first 45 s
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       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                        Score
                                                                                                          28.5
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Match
     June 18, 2002, 08:12:57; Search time 13.54 Seconds (without alignments)
162.588 Million cell updates/sec
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134
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/cgn2_6/ptodata/1/paa/USO5_NEW_COMB.pep:*
/cgn2_6/ptodata/1/paa/USO8_NEW_COMB.pep:*
/cgn2_6/ptodata/1/paa/USO8_NEW_COMB.pep:*
/cgn2_6/ptodata/1/paa/USO9_NEW_COMB.pep:*
/cgn2_6/ptodata/1/paa/USO9_NEW_COMB.pep:*
/cgn2_6/ptodata/1/paa/USO9_NEW_COMB.pep:*
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  PCT-USO2-0937-427
PCT-USO2-0937-427
PCT-USO2-09370-671
US-10-105-495-684
US-10-105-495-684-133
US-10-147-849-133
US-10-147-849-133
US-10-147-849-133
US-10-147-849-133
US-10-147-849-133
US-10-147-849-133
US-10-147-849-133
US-10-147-849-133
US-10-147-849-135
US-10-107-398-136
US-10-108-398-136
US-10-108-294-215
PCT-USO2-13200-5
US-10-105-232-72
US-10-105-232-324
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Sequence 3, Appli Sequence 67, App Sequence 671, App Sequence 133, App Sequence 133, App Sequence 133, App Sequence 134, App Sequence 136, App Sequence 136, App Sequence 136, App Sequence 136, App Sequence 210, App Sequence 210, App Sequence 215, Appli Sequence 5, Appli Sequence 5, Appli Sequence 5, Appli Sequence 59, Appli Sequence 59, Appli Sequence 324, Appli Sequence 324, Appli Sequence 333, App Sequence 331, App Sequence 326, Appli Sequence 327, Appli Sequence 333, App Sequence 333, App Sequence 326, Appli Sequence 327, Appli Sequence 333, App Sequence 327, Appli Sequence 333, App Sequence 333, App Sequence 336, App
                                                                                                                                                                                                                                                                                                                    Description
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US-09-523-033A-3
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27	27	27	27	27	27	27	27	27	27	27	28	28	28	28	28	28	28	28
20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9
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US-10-115-123-516	PCT-US02-01109-141	US-10-105-299-3814	PCT-US02-09922-285	PCT-US02-09257-299	PCT-US02-09105-221	PCT-US02-09135-151	US-10-089-783-24	US-10-089-783-23	US-10-089-783-61	us-10-089-783-10	US-10-147-993-134	US-10-147-849-134	US-10-099-574A-134	US-10-105-299-3205	US-09-453-841-134	US-09-453-834-134	PCT-US02-09370-505	PCT-US02-09188-487
Sequence 516, App	Sequence 141, App	Sequence 3814, Ap			221,			Sequence 23, Appl		Sequence 10, Appl	Sequence 134, App	Sequence 134, App	Sequence 134, App	LIT	Sequence 134, App	Sequence 134, App	Sequence 505, App	•

## ALIGNMENTS

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Sequence 3, Application US/09523033A

Sequence 3, Application US/09523033A

GENERAL INFORMATION:
APPLICANT: KNON. Deborah Y.
APPLICANT: Brostoff, Steven W.
APPLICANT: Brostoff, Steven W.
APPLICANT: Brostoff, Steven W.
APPLICANT: Brostoff, Steven W.
ITILE DEFENCE: TCS-428.0 US-1
CURRENT PAPLICATION: NUMBER: US/09/523.033A
CURRENT PAPLICATION NUMBER: US/09/523.033A
CURRENT PAPLICATION NUMBER: US/08/482,454
PRIOR FILING DATE: 1995-06-06
ANUMBER OF SED ID NOS: 3
COPTWARE: Patentin version 3.1
SED ID NO 3
SED ID NO 3
LEMERT: 11
TYPE: PRT
ORGANISM: Homo sapiens
US-09-523-033A-3

US-09-523-033A-3

US-09-523-033A-3

US-09-523-033A-3

Ouery Match
Best Local Similarity 100.0%; Pred. No. 0.078;
Matches 11: Conservative 0; Mismatches 0; Indels 0; Gaps
OF 16 HLIVDFLOSLS 26
Db 1 HLIVDFLOSLS 26
Db 1 HLIVDFLOSLS 26
Db 1 HLIVDFLOSLS 11

RESULT 2
PCT-US02-09257-427
Sequence 427, Application PC/TUS0209257
Sequence 427
SEQUENCE OF INVENTION; Human Secreted Proteins
TITLE OF INVENTION; Human Secreted Proteins
TITLE OF INVENTION HUMBER: US 69/78.650
PRIOR APPLICATION NUMBER: US 69/950,083
PRIOR FILING DATE: 2001-03-26
SOPTMARE: Patentin Ver. 2.0
SED ID NO 427
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CURRENT APPLICATION NUMBER: PCT/US02/09370
CURRENT EILING DATE: 2002-03-26
PRIOR APPLICATION NUMBER: US 60/278,650
PRIOR FILLING DATE: 2001-03-27
PRIOR PILLING DATE: 2001-03-27
PRIOR APPLICATION NUMBER: US 09/950,082
PRIOR PILLING DATE: 2001-09-12
PRIOR APPLICATION UMBER: US 09/950,083
PRIOR APPLICATION UMBER: US 09/950,083
PRIOR PILLING DATE: 2001-09-12
NUMBER OF SEQ ID NOS: 1834
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 671
LENGTH: 21
                                   Query Match
Best Local Similarity
watches 6; Conserv
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US-10-105-299-5439
Sequence 5439, Application US/10105299
GENERAL INFORMATION:
APPLICANT: Rosen, et. al
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Best Local Similarity
"atches 6; Conserv:
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US-10-105-299-5439
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; TYPE: PRT
; ORGANISM: Homo sapiens
PCT-US02-09257-427
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Homo sapiens
PCT-US02-09370-671
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PCT-US02-09370-671
                                                                                                                                                                                           TITLE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: PS950
CORRENT APPLICATION NUMBER: US/10/105,299
CURRENT FILING DATE: 2002-03-26
NUMBER OF SEQ ID NOS: 15197
Prior Application removed - See File Wrapper or Palm SOFTWARE: Patentin Ver, 2.0
SEQ ID NO 5439
LENGTH: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 671, Application PC/TUS0209370 GENERAL INFORMATION:
APPLICANT: Human Genome Sciences, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ouery Match 25.4%; Score 34; DB Best Local Similarity 60.0%; Pred. No. 99; Matches 6; Conservative 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Human Secreted Proteins FILE REFERENCE: PS954PCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
12 GFPEHLLVDF 21
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                                                   Conservative
                                                                     25.48;
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Pred. No. 99;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-145-415-68
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 133, Application US/09453834 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 68, Application US/10145415 GENERAL INFORMATION:
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Best Local Similarity
Matches 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: 21rkle, Ross Eric
TITLE OF INVENTION: Methods and Compositions for Making Emamectin
FILE REFERENCE: SYN-117 109846.312
CURRENT APPLICATION NUMBER: US/10/145.415
CURRENT FILING DATE: 2002-05-14
PRIOR APPLICATION NUMBER: US 60/291,149
PRIOR FILING DATE: 2001-05-16
NUMBER OF SEQ ID NOS: 105
NUMBER OF SEQ ID NOS: 105
SOCHWARE: PRACEYOR OF WINDOWS Version 4 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Buckel, Thomas Gunter
APPLICANT: Hammer, Philip Eugen
APPLICANT: Hill, Dwight Steven
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Metz, Guntan
APPLICANT: Dufourcy, Jean
TITLE OF INVENTION: APOLIPOPROTEIN A-I AGONISTS
TITLE OF INVENTION: AND THEIR USE TO TREAT DYSLIPIDEMIC DISORDERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
             FILING DATE: 29-SEP-1997
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A
                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatik
                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                         SOFTWARE: FastSEQ Version 2.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                           OPERATING SYSTEM:
                                                                                                                                                                                                                                                                  COUNTRY: USA
ZIP: 10036-2811
                                                                                                                                                                                                                                                                                                                   STREET: 1155 Av
                                                                                                      CLASSIFICATION:
                                                                                                                                                                                                                                                                                                     STATE:
REGISTRATION NUMBER:
                                                                                                                          FILING DATE:
                                                                                                                                           APPLICATION NUMBER:
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Hill, Dwight Steven
Ligon, James Madison
Molnar, Istvan
Pachlatko, Johannes Paul
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                                                                                                                                                                                                                                                                                                                                       1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Buttner, Klaus
Cornut, Isabelle
Metz, Gunther
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                                                                     08/940,095
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Pred. No. 92;
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; TOPOLOGY: linear; MOLECULE TYPE: None US-09-453-834-133
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US-09-453-841-133
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; TOPOLOGY: linear; MOLECULE TYPE: Non US-09-453-841-133
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TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 13
SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
TYPE: amino acid
TYPE: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 133, Application US/09453841 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 23.9%;
Best Local Similarity 58.3%;
Matches 7; Conservative
                                                                                                                                                               APPLICATION NUMBER: US/09/453,841
FILING DATE:
CLASSIFICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/940,095
FILING DATE: 29-SEP-1997
ATTORNEY/AGENT INFORMATION:
NAME: COTUZZI, LAUID A
REGISTRATION NUMBER: 30,742
REFERENCE/DOCKET NUMBER: 009196-0004-999
TELEPHONE: 650-493-4935
TELEPHONE: 650-493-5556
TELEPHONE: 650-493-5556
                                                                                                           TELEFAX: 650-493-5556
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Metz, Gunther
APPLICANT: Dufourcq, Jean
TITLE OF INVENTION: APOLICOPROTEIN A-I AGONISTS
TITLE OF INVENTION: AND THEIR USE TO TREAT DYSLIPIDEMIC DISORDERS
UNDERE OF SEQUENCES: 258
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEO Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Sekul, Renate
APPLICANT: Buttner, Klaus
APPLICANT: Cornut, Isabelle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 00
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-493-4935
TELEPHONE: 650-493-5556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 1155 AV
CITY: New York
STATE: NY
COUNTRY: USA
COUNTRY: USA
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                                                    STRANDEDNESS:
                                                                   TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Pennie & Edmonds LLP STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7 ERLLEDLLQALN 18
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                                                    single
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Pred. No. 2.
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2.1e+02;
3;
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                                             RESULT 9
US-10-147-849-133
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; Sequence 133, Application US/10147849
; GENERAL INFORMATION:
; APPLICANT: Dasseux, Jean-Louis
                                                                                                                                                                                                                                                US-10-099-574A-133
                                                                                                                                                                                                                                                                                                                      Sequence 133, Application US/10099574A GENERAL INFORMATION:
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Matches
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                                                                                                                                                                      Matches
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NAME: COTUZZÍ, LAURA A
REGISTRATION NUMBER: 30,742
REFERENCE/DOCKET NUMBER: 0091
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-493-4935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds LLP
STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Dasseux, Jean-Louis
APPLICANT: Sekul, Renate
APPLICANT: Buttner, Klaus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                              TOPOLOGY: linear MOLECULE TYPE: None
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: APOLIPOPROTEIN A-I AGONISTS
TITLE OF INVENTION: AND THEIR USE TO TREAT DYSLIPIDEMIC DISORDERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              y march 23.9%;
Local Similarity 58.3%;
hes 7; Conservative
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CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 1155 AV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/1 FILING DATE: 29-SEP-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: USA
ZIP: 10036-2811
                                                                                                                                        15 EHLLVDFLQSLS 26
                                                                                                                                                                      Local Similarity
les 7; Conserv
                                                                                                                                                                                                                                                                                            STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
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                                                                                                         7 ERLLEDLLQALN 18
                                                                                                                                                                                                                                                                                                           amino acid
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Cornut, Isabelle
                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IBM Compatible
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58.3%;
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Pred. No. 2.1e+02;
2; Mismatches 3
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Pred. No. 2.1e+02
                                                                                                                                                                        Mismatches
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                                                                                                                                                                                                  Length 22;
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APPLICANT: APPLICANT:

Buttner, Klaus Cornut, Isabelle

Sekul, Renate

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US-10-147-993-133; Sequence 133, Application US/10147993; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 23.9%;
Best Local Similarity 58.3%;
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: 00:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-493-4935
TELEFAX: 650-493-5556
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 133:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acids
TYPE: amino acid
STRANDEDNESS: *'
TOPOLOGY:
OLECTION
                                                                                                                                                                                                                 APPLICANT: Dasseux, Jean-Louis
APPLICANT: Sekul, Renate
APPLICANT: Buttner, Klaus
APPLICANT: Cornut, Isabelle
APPLICANT: Metz, Gunther
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: COLUZZI, Laura A
REGISTRATION NUMBER: 30,742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM COMPATIBLE
OPERATING SYSTEM: DOS
SOPTWARE: FASTSED VETSION 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/147,849
FILING DATE: 29-SEP-1997
CLASSIFICATION:
                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds LLP
STREET: 1155 Avenue of the Americas
                                                                                                                                                          TITLE OF INVENTION: APOLIPOPROTEIN A-I AGONISTS
TITLE OF INVENTION: AND THEIR USE TO TREAT DYSLIPIDEMIC DISORDERS
NUMBER OF SEQUENCES: 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: None
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: APOLIPOPROTEIN A-I AGONISTS
TITLE OF INVENTION: AND THEIR USE TO TREAT DYSLIPIDEMIC DISORDERS
NUMBER OF SEQUENCES: 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
ZIP: 10036-2811
COMPUTER READABLE FORM:
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ZIP: 10036-2811
                                                           STATE:
                                                                          CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15 EHLLVDFLQSLS 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Pennie & Edmonds LLP STREET: 1155 Avenue of the Americas
                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                        7 ERLLEDLLQALN 18
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                                         USA
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Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 6;
2.1e+02;
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US-09-050-359B-136; Sequence 136; Application US/09050359B; GENERAL INFORMATION:
                                                                                                        RESULT 12
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US-10-014-340-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-014-340-19
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                                                                                                                                                                                                                                                                                                                                                       Sequence 19, Application US/10014340

GENERAL INFORMATION:
APPLICANT: Herath, et al
TITLE OF INVENTION: Nucleic Acid Molecules, Polypeptides and Uses Therefor, Includ
TITLE OF INVENTION: Diagnosis and Treatment of Alzheimer's Disease
FILE REFERENCE: 9195-078
FULE REFERENCE: 9195-078
FULE REFERENCE: 201-12-10
CURRENT APPLICATION NUMBER: US/10/014,340
CURRENT FILING DATE: 2001-12-10
NUMBER OF SEQ ID NOS: 823
SOFTWARE: Patentin version 3.0
SEQ ID NO 19
LENGTH: 9
TYPE: PRT
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Best Local Similarity
Matches 7; Conserv
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Best Local S
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TELEPHONE: 650-493-4935
TELEFAX: 650-493-5556
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 133:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: COTUZZI, Laura A
REGISTRATION NUMBER: 30,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: FastSEQ Version 2.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 22 amino acids TYPE: amino acid STRANDEDNESS: single
                                                                                                                                                                                               13 FPEHL 17
                                                                                                                                                                                                                              Local Similarity
hes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15 EHLLYDFLOSIS 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/1 FILING DATE: 29-SEP-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                           2 FPEHL 6
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                                   APPLICANT: FOWLKES, Dana M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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KAY, Brian K
FRELINGER, Jeffrey A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        None
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                                                                                                                                                                                                                              22.4%; Score 30; DB 6; I
100.0%; Pred. No. 2.3e+05;
tive 0; Mismatches 0;
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Pred. No. 2,1e+0:
2; Mismatches
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RESULT 13
US-09-069-827A-136
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Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                              Sequence 136, Application US/09069827A
GENERAL INFORMATION:
APPLICANT: FOWLKES, Dana M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION.
TELEPHONE: (202) 628-519;
TELEPAS: (202) 737-5528
INFORMATION FOR SEQ ID NO: 136:
SEQUENCE CHARACTERISTICS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM FC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/050,359B
FILING DATE: 31-Mar-1998
CLASSIFICATION: UDKNOWN>
PRIOR APPLICATION NUMBER: PCT/US97/19638
FILING DATE: 31-OCT-1997
APPLICATION NUMBER: US 08/740,671
FILING DATE: 31-OCT-1996
ATTORNEY/ACENT INFORMATION:
NAME: COOPER, Iver P
REGISTRATION NUMBER: 28,005
REFERENCE/DOCKET NUMBER: FOWLKES-4B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14 PEHLLYDFLO 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity 70.1 es 7; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                             KAY, Brian K
PRELINGER, Jeffrey A
PRELINGER, JEFFREY A
HYDE-DERUYSCHER, ROBIN P
TITLE OF INVENTION: IDENTIFICATION OF DRUGS USING
COMPLEMENTARY COMBINATORIAL LIBRARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 178
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
STREET: 624 Ninth Street N.W., Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HYDE-DERUYSCHER, RObin P
TITLE OF INVENTION: IDENTIFICATION OF DRUGS USING
COMPLEMENTARY COMBINATORIAL LIBRARIES
ZIP: 20001
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: BROWDY AND NEIMARK, P.L.L.C.
STREET: 624 Ninth Street N.W., Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 136:
                                                                                                                                                                                                           NUMBER OF SEQUENCES: 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 16 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: U.S.A.
ZIP: 20001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Washington
STATE: D.C.
                                                                                                          CITY: Washington STATE: D.C.
                                                                                     COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22.48;
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Wismatches
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2.9e+02;
thes 3;
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Sequence 210, Application US/10000256A

GENERAL INFORMATION:
APPLICANT: Sun, Yongming
APPLICANT: Sun, Yongming
APPLICANT: Chen, Sel-Yu
APPLICANT: Liu, Chenghun
APPLICANT: Liu, Chenghun
FILE OF INVENTION: Compositions and methods Relating to Prostate Specific Genes a
FILE REFERENCE: DEX-0259
CURRENT APPLICATION NUMBER: US/10/000,256A
CURRENT FILING DATE: 2001-11-01
PRIOR APPLICATION NUMBER: 60/244,782
PRIOR FILING DATE: 2000-11-01
NUMBER OF SEO ID NOS: 240
SOFTWARE: Patentin version 3.1
SEQ ID NO 210
LENGTH: 18
TYPE: PRT
ORGANISM: Homo Sapien
US-10-000-256A-210
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MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 136:
US-09-069-827A-136
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-000-256A-210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
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Best Local Similarity
Vn+ches 7; Conserve
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PRIOR APPLICATION UNMER: US 09/050,359

FILING DATE: 31-MAR-1998

APPLICATION NUMBER: PCT/US97/19638

FILING DATE: 31-OCT-1997

APPLICATION NUMBER: US 08/740,671

FILING DATE: 31-OCT-1996

ATTORNEY/AGENT INFORMATION:

NAME: COOPER, Iver p

REGISTRATION NUMBER: 28,005

REFERENCE/DOCKET NUMBER: FOWLKES-4C

TELEPHONE: (202) 628-5197

TELEPHAN: (202) 737-3528

INFORMATION FOR SEQ ID NO: 136:

SEQUENCE CHARACTERISTICS:

SEQUENCE CHARACTERISTICS:

LENGTH: 16 amino acids
                                                                       Query Match
Best Local Similarity
Matches 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14 PEHLLVDFLQ 23
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                                3 GFLLLOMDFGFPEHLL 18
2 GYLGLGMAAGFKERVV 17
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APPLICATION NUMBER: US/09/069,827A
FILING DATE: 30-Apr-1998
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PESLLVRLLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS: single
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                                                                          Conservative
                                                                                           22.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22.4%;
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Pred. No. 2.9e+02;
0; Mismatches 3
                                                                       Score 30; DB 6;
Pred. No. 3.3e+02;
3; Mismatches 6
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                                                                                                            Length 18
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RESULT

9; Gaps

1;

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US-99-712-506-290
Sequence 20, Application US/09721506
GENERAL IMPORMATION:
APPLICANT: Cech, Thomas R.
Lingner, Joachim
Nakamara, Toru
Nakama
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Query Match

22.0%; Score 29.5;

DB 5;

Length 22;

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Best Local Similarity 40.9%; Pred. No. 4.8e+02;
Matches 9; Conservative 1; Mismatches 3; Indels
Oy 1 RDGLILONDFGFPEHLIVDFL 22
111 11 :1
Db 2 RDGLILRLYD-------DFL 14

Search completed: June 18, 2002, 08:15:57
Job time: 180 sec
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No.
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    Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                            Score
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of hits satisfying chosen parameters:
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g length: 26
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1: /cgn2_6/ptodata/2.

2: /cgn2_6/ptodata/2.

3: /cgn2_6/ptodata/2.

4: /cgn2_6/ptodata/2.

5: /cgn2_6/ptodata/2.

6: /cgn2_6/ptodata/2.
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Maximum Match 100%
Listing first 45 s
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   BLOSUM62
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Copyright (c) 1993 - 2000 Comp
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/cgn2_6/ptodata/2/1aa/5B_COMB.pep:*
/cgn2_6/ptodata/2/1aa/6A_COMB.pep:*
/cgn2_6/ptodata/2/1aa/6B_COMB.pep:*
/cgn2_6/ptodata/2/1aa/PCTUS_COMB.pep:*
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    Sequence
                               133, App
133, App
133, App
133, App
133, App
133, App
134, App
137, App
170, App
170
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	<b>4</b> 5	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	
	27	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	
	20.1	20.1	20.9	20.9			20.9			20.9									
	9	9	26	26	26	26	26	26	26	26	26	26	26	26	26	26	22	22	
	4	N	u	G	4	4	4	4	N	N	Ŋ	N	N	N	N	N	44.	4	
ALIGNMENTS	US-09-416-557-83	US-08-765-783A-83	PCT-US95-04481-30	PCT-US95-04481-13	US-08-484-296-168	US-08-484-296-134	US-08-484-296-37	US-08-484-296-22	US-08-478-572-168	US-08-478-572-134	US-08-478-572-37	US-08-478-572-22	US-08-482-142-168	US-08-482-142-134	US-08-482-142-37	US-08-482-142-22	US-09-453-605-134	US-09-465-719-134	
	Sequence 83, Appl	-	Sequence 30, Appl	Sequence 13, Appl			Sequence 37, Appl			Sequence 134, App				Sequence 134, App	Sequence 37, Appl	Sequence 22, Appl	-	Sequence 134, App	

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US-08-940-095-133; Sequence 133, Application US/08940095; Patent No. 6004925
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; TOPOLOGY: 1; MOLECULE TYPE: US-08-940-095-133
                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
COMPUTER: IBM COMPATIBLE
COMPUTER: IBM COMPATIBLE
COMPUTER: DOS
SOFTWARE: FASTSEN DOS
SOFTWARE: FASTSEN DOS
APPLICATION NUMBER: US/08/940,095
FILING DATE: 29-SEP-1997
CLASSIFICATION DATA:
APPLICATION NUMBER: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 30,742
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 30,742
NAME: COTUZZI, LAUTA A
REGISTRATION NUMBER: 30,742
DEFENSACE ACCEPT NUMBER: 30,742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                       TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-493-595
TELEFAX: 650-493-556
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 133:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Metz, Gunther
APPLICANT: Dufourcq, Jean
TITLE OF INVENTION: APPLIFOPROTEIN A-I
TITLE OF INVENTION: AND THEIR USE TO TR
NUMBER OF SEQUENCES: 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 1155 AV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                REGISTRATION NUMBER: 30, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Pennie & Edmonds LLP STREET: 1155 Avenue of the Americas
                                                            STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10036-2811
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Cornut, Isabelle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sekul, Renate
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                                          linear
                        No. 6004925e
                                                            single
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RESULT 3
US-08-940-096-133
/ Sequence 133, Application US/08940095
/ Patent No. 6046166
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US-08-940-093-133
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Best Local Similarity
Thehes 7; Conserve
                                                                                                                                                                         Matches
                                                                                                                                                                                                        Query Match
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Patent No. 60:
                                                                                                                                                                                                                                                                                                                                                      TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: COTUZZI, LBUTA A
REGISTRATION UNUBER: 30,742
REFERENCE/DOCKET NUMBER: 0091
TELECOMMUNICATION: INFORMATION:
TELEPINE: 650-493-4935
TELEFAX: 650-493-556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Dasseu:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/940,093
FILING DATE: 29-SEP-1997
CIASSIETCATION APPLICATION APPLICATION NUMBER: US/08/940,093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds LLP
STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: APOLIPOPROTEIN A-I AGONISTS
TITLE OF INVENTION: AND THEIR USE TO TREAT DYSLIPIDEMIC DISORDERS
NUMBER OF SEQUENCES: 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Buttner, Klaus
APPLICANT: Cornut, Isabelle
APPLICANT: Metz, Gunther
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                     15 EHLLVDFLQSLS 26
                                                                                                                                                                         Local Similarity tes 7; Conserv
                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                   LENGTH: 22 amino acids
TYPE: amino acid
STRANDEDNING SINGLE
STRANDEDNING SINGLE
                                                                                                   7 ERLLEDLLQALN 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: New York
STATE: NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
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                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
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                                                                                                                                                                                                                                                                                     linear
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                                                                                                                                                                                    23.9%; 58.3%;
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                                                                                                                                                                                      Score 32; DB
Pred. No. 66;
                                                                                                                                                                       Mismatches
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; MOLECULE TYPE:
US-08-940-096-133
                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity bs...
Thes 7; Conservative
                                                                                                                                                                                                                               Patent No.
                                                                                                                                                                                                                                               Sequence 133,
                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
ATTORNEY/AGENT INFORMATION:
AMAGE: COTUZZÍ, Laura A
REGISTRATION NUMBER: 30,742
REFERENCE/DOCKET NUMBER: 0091
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-493-4935
TELEPHONE: 650-493-5556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                        TITLE OF INVENTION: APOLIPOPROTEIN A-I AGONISTS
TITLE OF INVENTION: AND THEIR USE TO TREAT DYSLIPIDEMIC DISORDERS
NUMBER OF SEQUENCES: 258
                                                                                                                        APPLICANT: Buttner, Klaus
APPLICANT: Cornut, Isabelle
APPLICANT: Metz, Gunther
                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: FastSEQ Version 2.0 CURRENT APPLICATION DATA: APPLICATION UMBER: US/08/940, FILING DATE: 29-SEP-1997 CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
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TITLE OF INVENTION: AND THEIR USE TO TREAT DYSLIPIDEMIC DISORDERS
NUMBER OF SEQUENCES: 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                              STREET:
STATE:
                CITY:
                            ADDRESSEE: Pennie & Edmonds LLP
STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                               15 EHLLVDFLOSLS 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 22 amino acids
TYPE: amino acid
STROEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM CONTROL OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                               7 ERLLEDLLOALN 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET:
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                                                                                                                                                                                                                             33, Application US/09465719 6265377
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10036-2811
              New York
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1155 Avenue of the Americas
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Cornut, Isabelle
Metz, Gunther
                                                                                                                                                                              Sekul, Renate
                                                                                                                                                                                               Dasseux,
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Sekul, Renate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               No. 6046166e
                                                                                                                                                                                                                                                                                                                                                                                                              23.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                              Score 32; DB 3;
Pred. No. 66;
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                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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3; Indels Length 22

0; Gaps

COMPUTER READABLE FORM: MEDIUM TYPE: Diskett

IBM Compatible

10036-2811

COUNTRY:

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RESULT 5
US-09-453-605-133
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 133, Application US/09453605 Patent No. 6329341 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local :
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TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/940,093
FILING DATE: 29-SEP-1997
ATTORNEY/AGENT INFORMATION:
NAME: COTUZZÍ, LBUIG A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: 650-493-4935
                                              COUNTRY: USA
ZIP: 10035-2811
COMPUTER READABLE FORM:
COMPUTER: LIBM COMPATIBLE
COMPUTER: IBM COMPATIBLE
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 2.0
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/09/453,605
FILING DATE: 26-No. 6329341-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: 650-493-5556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     y match 23.9%;
Local Similarity 58.3%;
hes 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: COTUZZÍ, LAUTA A
REGISTRATION NUMBER: 30,742
REFERENCE/DOCKET NUMBER: 00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15 EHLLVDFLQSLS 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/09/465,719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7 ERLLEDLLQALN 18
                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds LLP
STREET: 1155 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                 Dufourcq, Jean
TITLE OF INVENTION: APOLIPOPROTEIN A-I AGONISTS
AND THEIR USE TO TREAT DYSLIPIDEMIC DISORDERS
NUMBER OF SEQUENCES: 258
                PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Dasseux, Jean-Louis
                                                                                                                                                                                                                                          CITY: New York
STATE: NY
              CLASSIFICATION: <Unknown>
APPLICATION NUMBER: 08/940,095
                                                                                                                                                                                                                                                                                                                                                                                                          Metz, Gunther
                                                                                                                                                                                                                                                                                                                                                                                                                             Buttner, Klaus
Cornut, Isabelle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           No. 6265377e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Renate
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TOPOLOGY: 11 near

MOLECULE TYPE: No. 6329341e
SEQUENCE DESCRIPTION: SEQ ID NO: 133:
US-09-453-605-133
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Best Local Similarity
Thes 7; Conservat
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PCT-US91-02942-98
PCT-US91-02942-98
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                                                                                                                              TELEFAX: (202) 833-8716
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: 133: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDITIM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US91/02942
FILING DATE: 19910429
COURTER TOWNS APPLICATION AND APPLICATION NUMBER: PCT/US91/02942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: ROTHLEIN, ROBERT
APPLICANT: ADAIR, JOHN R
APPLICANT: APHWAL, DILJEET S
TITLE OF INVENTION: HUMANIZED CDR-GRAFTED ICAM-1 ANTIBODY
NUMBER OF SEQUENCES: 102
                                                                                                                                                                                                                                                APPLICATION NUMBER: GB 9009549.8 FILING DATE: 27-APR-1990 ATTORNEY/AGENT INFORMATION: NAME: FOX, SAM L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS
                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 466-0800
                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                TOPOLOGY: 1
                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15 EHLLVDFLOSLS 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: Washington STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Sterne, Kessler, Goldstein & Fox STREET: 1225 Connecticut Ave. NW Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP:
                                                      STRANDEDNESS:
                                                                                                                                                                                                            REGISTRATION NUMBER: 30,353
REFERENCE/DOCKET NUMBER: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7 ERLLEDLIQALN 18
                                                                                          LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-493-4935
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ATTORNEY/AGENT INFORMATION:
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                                                                         AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 22 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Coruzzi, Laura A
REGISTRATION NUMBER: 30,742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX:
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                                                                                      26 amino acids
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                                   linear
                peptide
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US-08-199-508-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: Pa
SEQ ID NO 8
LENGTH: 23
TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                        Sequence 2, Application US/08199508 Patent No. 5717058
                                                                                                                                                                                                                          GENERAL INFORMATION:

APPLICANT: Matthews, Maura-Ann H.

APPLICANT: Stetler, Gary L.

APPLICANT: Anthony-Cahill, Spencer J.

APPLICANT: Anderson, David C.

TITLE OF INVENTION: Modulators of Gene Expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Foley, Denise M.

TITLE OF INVENTION: BORRELIA BURGDORFERI OUTER MEMBRANE PROTEINS
FILLE REFERENCE: UC Case No. 6153194 96-059-3/Skare et al.

CURRENT APPLICATION NUMBER: US/09/183,217A

CURRENT FILING DATE: 1998-10-29

PRIOR APPLICATION NUMBER: 08/787,367

PRIOR APPLICATION NUMBER: 097-01-22

NUMBER OF SEQ ID NOS: 9

NUMBER OF SEQ ID NOS: 9
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APPLICANT:
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APPLICANT:
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Patent No. 6153194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
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              COMPUTER: Apple Macintosh
OPERATING SYSTEM: System 7.0.1
SOFTWARE: Microsoft Word 5.0a
CURRENT APPLICATION DATA:
                                                                              COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.50 inch, 1.4 Mb storage
                                                                                                                                                                                    ADDRESSEE: Somatogen
                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
 APPLICATION NUMBER:
                                                                                                                    STATE: Colo
                                                                                                                                                   CITY: Boulder
                                                                                                                                                                       STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity hes 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity 54.1
hes 6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kagan, Bruce L.
Tempst, Paul
Foley, Denise M.
                                                                                                                                      Colorado
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Blanco, David R.
Miller, James N.
Lovett, Michael A.
                                                                                                                                                                     E: Somatogen, Inc.
5797 Central Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mizabekov, Tajib A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shang, Ellen S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Champion, Cheryl I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23.1%; Score 31; DB 50.0%; Pred. No. 1e+tive 4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23.9%;
US/08/199,508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 32; DB Pred. No. 80; 2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 4; Length 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
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US-08-851-843A-170
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Best Local Similarity
Thehes 5; Conserva
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; MOLECULE TYPE: peptide 

; HYPOTHETICAL: yes 

US-08-199-508-2
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Patent No. 6
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TELEFAX: 303-444-3013
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                             SOFTWARE: PatentIn Release #1.0, VACUREENT APPLICATION DATA:
APPLICATION NUMBER: US/08/851,843A
FILING DATE: 06-MAY-1997
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDITM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
APPLICANT:
                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
                                                                                                                                                                                           PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Andrews, TITLE OF INVENTION: NUMBER OF SEQUENCES:
                                                  PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 08/021,536
FILING DATE: February 23, 1993
ATTORNEY/AGENT INFORMATION:
NAME: NO. 5717058ak, Henry P.
REGISTRATION NUMBER: 33200
REFERENCE/DOCKET NUMBER: 121 C:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: 303-541-3322
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PRIOR APPLICATION DATA:
                                                                                                                                                            APPLICATION NUMBER: US 0 FILING DATE: 25-APR-1997
                                                                      CLASSIFICATION:
                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: Two Embarcac
CITY: San Francisco
CLASSIFICATION:
             APPLICATION NUMBER: US 0 FILING DATE: 01-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                             STATE: California COUNTRY: United S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 FGYPYYVFGDCVQ 13
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Chapman, Karen B.
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Harley, Calvin
                                                                                                                                                                                                                                                                                                                                                                                             United States of America
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VENTION: No. 6093809el Telomerase
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                                                                                                                                                                                                                                                                                     Release #1.0, Version #1.30
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Pred. No. 1.2e+02;
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TELEPHONE: (415) 576-0200
TELEPHAX: (415) 576-0200
TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 170:
SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/974.549A

FILING DATE: 19-NOV-1997

CLASSIFICATION: 536

PRIOR APPLICATION DATA:

PRIOR APPLICATION DATA:
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Patent No. 6166178
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Lingner, Joachim
APPLICANT: Nakamura, Toru
APPLICANT: Chapman, Karen B.
APPLICANT: Morin, Gregg B.
APPLICANT: Hariey, Calvin B.
APPLICANT: Hariey, Calvin B.
APPLICANT: Andrews, William H.
TITLE OF INVENTION: Human Telomerase Catalytic Subunit
NUMBER OF SEQUENCES: 727
CORRESPONDENCE ADDRESS:
                                                                                                                                  APPLICATION NUMBER: US UB/0477777 APPLICATION DATA: 18-APR-1997 PRIOR APPLICATION DATA: PRIOR APPLICATION NUMBER: US 08/846,017
                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
PRIOR APPLICATION DATA:
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                                   APPLICATION NUMBER: US 0: FILING DATE: 25-APR-1997 PRIOR APPLICATION DATA; APPLICATION NUMBER: US 0: APPLICATION NUMBER: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity hes 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor CITY: San Francisco
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OTHER INFORMATION:
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REGISTRATION NUMBER: 36,4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 94111-3834
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UMBER: US 08/851,843
06-MAY-1997
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telomerase core protein 1 (TCP1)'
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Pred. No. 1.7e+02;
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US-08-854-050-170
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EILING DATE: 01-OCT-1997
PRIOR APPLICATION DATA: WO PCT/US97/17885
APPLICATION NUMBER: WO PCT/US97/17885
EILING DATE: 01-OCT-1997
ATTORNEY/AGENT INFORMATION:
NAME: APPle, Randon-
                                                                                                                                                                                                                                                                                                                                                                Sequence 170, Application US/08854050 Patent No. 6261836 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
Matches 9; Conserv
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                                                                                                                                                                                                                                                                        APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Apple, Randolph Ted
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002610US
TELECOMMUNICATION INFORMATION:
                                                                                                                                     NUMBER OF SEQUENCES: 225
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
TYPE: amino acid
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APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-MAY-1997
                                                                                                                                                                                                              APPLICANT: Lingner, Joachim
APPLICANT: Nakamura, TOOTO
APPLICANT: Chapman, Karen B.
APPLICANT: Worin, Gregg B.
APPLICANT: Harley, Calvin
APPLICANT: Harley, Calvin
APPLICANT: Andrews, William H.
APPLICANT: No. 6261836el Telomerase
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 08/911,312 FILING DATE: 14-AUG-1997
                                                                                                  CITY:
STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: FILING DATE: 14-AU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE:
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                                                                               COUNTRY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS:
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                                                                                              San Francisco
: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     amino acid
                                                                                 United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (415) 576-0200
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14-AUG-1997
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14-AUG-1997
אר חאת אח
                                                                                                                                                                                                                                                                                                                                                   Thomas R
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Pred. No. 1.7e
1; Mismatches
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OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
US-08-854-050-170
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Sequence 170, Sequence 170, Sequence 170, Solo 1
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Best Local Similarity
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PILING DATE: 25-APR-1997
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
CLASSIFICATION: 536
CLASSIFICATION: 536
CLASSIFICATION: 536
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INFORMATION FOR SEQ ID NO: 170:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: (415) 576-0200
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NAME: Apple, Randolph T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 536
PRIOR APPLICATION DATA:
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APPLICATION NUMBER:
FILING DATE: 06-MAY-
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SOFTWARE: PatentIn Rel
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: peptide FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: Peptide LOCATION: 1..22
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REFERENCE/DOCKET NUMBER: 015389-002930US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Apple, Randolph T. REGISTRATION NUMBER: 36,4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/854,050 FILING DATE: 09-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS
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                            CORRESPONDENCE ADDRESS:

ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
CITY: San Francisco
STATE: California
                                                                                                                                                                                                                           Andrews, William H.
TITLE OF INVENTION: NO. 6309867el Telomerase
NUMBER OF SEQUENCES: 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Cech,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RDGLLLRLVD-----DFL 14
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                                                                                                                                                                                                                                                                                                                                       Morin, Gregg B.
Harley, Calvin
                                                                                                                                                                                                                                                                                                                                                                                                             Nakamura, Toru
Chapman, Karen B.
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United States of America
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n Release #1.0, Version #1.30
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telomerase core protein 1 (TCP1)"
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Pred. No. 1
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1.7e+02;
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Best Local Similarity
"-+~hes 9; Conserva
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                                                                                                        CURRENT APPLICATION NUMBER: US/09/128,572
CURRENT FILING DATE: 1998-08-04
EARLIER APPLICATION NUMBER: US 08/914,042
EARLIER FILING DATE: 1997-08-05
NUMBER OF SEQ ID NOS: 47
SOFTWARE: Wordberfect 8.0
SEQ ID NO 15
                                                                                                                                                                                                                                                                                                                          Sequence 15, Application US/09128572 Patent No. 6251866 GENERAL INFORMATION:
                                                                                                                                                                                                                                                            APPLICANT: Prakash, Ramesh K.
TITLE OF INVENTION: Conjugates Targeted to
FILE REFERENCE: T5181.CIP
                                                                     LENGTH: 11
TYPE: PRT
FEATURE: OTHER INFORMATION: Exhibits sequence similarity to a portion of human IL-2.
                                             ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (415) 576-03
INFORMATION FOR SEQ ID NO: 170:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
ATTORNEY/AGENT INFORMATION:
NAME: APPLE, Randolph T.
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002930US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
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FILING DATE: 29-Oct-1999
CLASSIFICATION: cunknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: /note= "motif C peptide from human telomerase core protein 1 (TCP1)" SEQUENCE DESCRIPTION: SEQ ID NO: 170:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
STRANDEDNESS: <Unknown>
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FILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/851,843
FILING DATE: 06-MAY-1997
FILING DATE: 25-APR-1997
FILING DATE: 25-APR-1997
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40.9%; Pred. No. 1.7e+02
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US-09-128-572-15

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Sequence 22, Application US/08484530

Patent No. 5846740

GENERAL INFORMATION:
APPLICANT: Tobin, Allan J
APPLICANT: Erlander, Mark G
APPLICANT: Kaufman, Daniel L.
TITLE OF INVENTION: Cloned Glutamic Acid Decarboxylase
NUMBER OF SEQUENCES: 60

CORRESPONDENCE ADDRESS:
ADDRESSE: Flehr, Hohbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400

CITY: San Francisoc
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Best Local Similarity
Matches 5; Conserva
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/156,671
FILING DATE: 22-NOV-1993
ATTORNEY_AGENT INFORMATION:
NAME: Smith, William M
REGISTRATION NUMBER: 30,223
REFERENCE_FOOKET NUMBER: 15522-000710
TELEFONMUNICATION INFORMATION:
TELEFAX: (415) 326-2400
TELEFONE: (415) 326-2400
TELEFONE: (415) 326-2402
INFORMATION FOR SEQ ID NO: 85:
SEQUENCE CHARACTERISTICS:
LENGTH: 19 amino acids
TYPE: amino acids
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US-08-399-696-85
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US-08-484-530-22
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Patent No. 5756669
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 62.9
Matches 5; Conservative
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COMPUTER READABLE FORM:
MEDIUM TYPE: F10ppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: 115/08/1/394.696
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <sub>د</sub>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 29; DB 1; Length 19;
Pred. No. 1.7e+02;
2; Mismatches 1; Indels
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Pred No. 88;
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Search completed: June 18, 2002, 08:13:27 Job time: 356 sec

0;

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TELEPHONE: 415-781-1989
INFORMATION FOR SEQ ID NO: 2
SEQUENCE CHARACTERISTICS:
LENGTH: 20 amino acids
INFORMATION FOR SEQ ID NO: 2
SEQUENCE THARACTERISTICS:
LENGTH: 20 amino acids
INFORMATION FOR SEQUENCES: Single
TYPE: amino acid
STRANDEDNESS: Single
TOPOLOGY: Linear
NOLECULE TYPE: peptide
US-08-484-530-22
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                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTION Release #1.0, Version #1.30
CURRENT APPLICATION NATA:
APPLICATION NUMBER: US/08/484,530
FILING DATE: 07-JUN-195
CLASSIFICATION: 435
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
REGISTRATION UNMBER: 31,801
REGISTRATION UNMBER: 31,801
REGISTRATION UNMBER: A-60780-8/RFT/MTK
                                                                           Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION: TELEPHONE: 415-781-1989
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9 IDFHYPNELL 18
                                     9 MDFGFPEHLL 18
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                                                                             Conservative
                                                                                               21.6%;
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                                                                         Score 29; DB 2;
pred. No. 1.8e+02;
2; Mismatches 3
                                                                                                                 Length 20
                                                                                0;
                                                                           Gaps
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		*

GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein protein search, using sw model

Run on: June 18, 2002, 08:16:32; Search time 14.14 Seconds (without alignments)
210.663 Million cell updates/sec

Title: Perfect score: US-09-943-334-2 162

Sequence: CQYIKANSKFIGITEFGFPEHLLVDFLQSLS 31

Scoring table: BLOSUM62 Gapop 10.0 ,

Searched:

Gapext 0.5

283138 seqs,

96089334 residues

Total number of hits satisfying chosen parameters: 6607

Minimum DB Maximum DB seq length: 0
seq length: 31

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database : PIR\_71:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
4: pir4:\*

score q No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, s derived by analysis of the total score distribution.

## SUMMARIES

29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	σ	v	4	ω	2	<b>~</b>	Result No.
25	25	25	25	25	25	25	25	25	26	26	26	26	26	26	26	26	26	27	27.5	28	N	28.5	29	29	30	31	31	31	Score
15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	16.0	σ.		6		ð	5	6	٥.	16.7	7.	17.3				17.9	18.5			19.1	Query Match
31	30	28	25	25	23	22	16	15	30	28	27				26	22	19	24	27	24	21	21	31	30	20	28	24	23	Length
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A32384	S24979	168614	B24417	A60502	PC4030	B60475	T44936	S71306	S14062	S49924	S52355	S55801	S55802	A28391	C85947	PQ0143	T50329	A24417	C44908	PN0163	JU0386	A32521	A70219	A34622	S57286	D38578	S11384	S45030	ID
G-alpha-1 protein	proteinase inhibit	frame shifted FMR1	interphotoreceptor	myonexin - norther	rRNA endonuclease	glyceraldehyde-3-p	calmodulin kinase	heat shock protein		_	hypothetical prote	stp protein (Baker	_		hypothetical prote	polygalacturonase	wd-repeat protein	interphotoreceptor	chitinase (EC 3.2.	glyceraldehyde-3-p	nitrile hydratase	hexokinase (EC 2.7		fibrinogen beta ch	translation elonga	protein kinase 4 (	thymidine phosphor	homeotic protein S	Description

444	42	40	38	36	S E	32	30
23.5 23.5 23	224	24	24	24	24	24.5	24.5
14.5	14.8	14.8	14.8	14.8	14.8	15.1	15.1
25 7	30 8	26	23	20	140	29	24
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E/1204 PH1717 S36662	A48299	JT0965	S51188	A60834 A37984	PT0230	AB0717	S69080
Ig heavy chain V r dermorphin (Lys-7)	taurine transporte	cytochrome-c oxida	aldehyde dehydroge	Anglocensin i prec ADP, ATP carrier pr		hypothetical prote	GDNF receptor alph

## ALIGNMENTS

Qy 7 NSKFIGITEFGFPEHLL 23	Query Match 19.1%; Score 31; DB 2; Length 23; Best Local Similarity 35.3%; Pred. No. 4.3e+02; Matches 6; Conservative 4; Mismatches 7; Indels 0; Gaps 0;	RESULT 1 \$45030 C;Species: Haliclona sp. C;Accession: \$45030 R;Degnan, B.M; Degnan, S.M.; Glusti, A.; Morse, D.E. submitted to the EMBL Data Library, May 1994 A;Description: A Hox homeobox gene in sponges. A;Reference number: \$45030 A;Reference number: \$45030 A;Reference species: \$45030 A;Molecule type: DNA A;Residues: 1-23 CDEG> A;Cross-references: EMBL:X79263; NID:g488754; PIDN:CAA55850.1; PID:g488755 C;Superfamily: unassigned homeobox; nucleus; transcription regulation	
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thymidine phosphorylase (EC 2.4.2.4) - Lactobacillus casei (fragment)
N;Alternate names: pyrimidine phosphorylase
C;Species: Lactobacillus casei
C;Date: 19-Mar-1997 #sequence\_revision 26-Feb-1998 #text\_change 21-Nov-1998
C;Accession: S11384
R;Avraham, Y: Grossowicz, N.; Yashphe, J.
Blochim. Blophys. Acta 1040, 287-293, 1990
A;Title: Purification and characterization of uridine and thymidine phosphorylase fro A;Reference number: S11383; MUID:90381286
A;Accession: S11384

A; Molecule type: protein A; Residues: 1-24 <AVR>

91

A;Experimental source: strain ATCC 7469
A;Note: this protein was shown to possess thymidine phosphorylase activity and not C;Superfamily: glyceraldehyde-3-phosphate dehydrogenase C;Keywords: glycosyltransferase; homodimer; pentosyltransferase

Query Match
Best Local Similarity
""tches 6; Conserva Conservative 19.1%; 0, Score 31; DB 2; Le Pred. No. 4.5e+02; 0; Mismatches 1; Length 24; Indels 0; Gaps

0;

Ş 11 IGITEFG 17

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R;Doolittle, R.F.; Riley, M.
Blochen. Blophys. Res. Commun. 167, 16-19, 1990
A;Title: The amino-terminal sequence of lobster
A;Reference number: A34622; MUID:90179743
A;Accession: A34622
                                                                                                                                                         A34622
fibrinogen beta chain · California spiny lobster (fragment)
C:Species: Panulirus interruptus (California spiny lobster)
C:Date: 13-Jul-1990 #sequence_revision 13-Jul-1990 #text_ch
C:Accession: A34622
      A; Molecule type: protein
A; Residues: 1-30 < DOO>
C; Superfamily: fibrinoge
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein kinase 4 (EC 2.7.1.-) - slime mold (Dictyostelium discoideum) (fragment) C:Species: Dictyostelium discoideum C:Datc: 28:Feb-1992 #sequence_revision 28:Feb-1992 #text_change 23:Feb-1997 C:Accession: D38578 R:Haribabu, B.; Dottin, R.P. Proc. Natl. Acad. Sci. U.S.A. 88, 1115-1119, 1991 A:Title: Identification of a protein kinase multigene family of Dictyostelium discoideum A:Reference number: A38578, MUID:91142122 A:Accession: D38578 A:Status: preliminary
                                                            A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A:Cross-references: GB:M59747
C:Superfamily: kinase-related transforming protein; protein kinase homology
C:Keywords: ATP; autophosphorylation; phosphoprotein; phosphotransferase; s
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A;Molecule type: prote
A;Residues: 1-20 <ARC:
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A; Residues: 1-28 <HAR>
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Similarity 41.7%;
5; Conservation
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chain; fibrinogen beta/gamma homology; fibrinogen
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Pred. No.
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3.3e+02;
2;
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nitrile hydratase (EC 4.2.1.84) -
N;Alternate names: nitrilase
C;Species: Acinetobacter sp.
                                                        JU0386
                                                                                                                                                                                                                                                                                                     A;MoLecule type: protein
A;Residues: 1-21 <SCH>
C;Superfamily: human hexokinase I; hexokinase homology
C;Keywords: ATP; glycolysis; phosphotransferase
                                                                                                                                                                                                                                                                                                                                                                                     R;Schirch, D.M.; Wilson, J.E.
Arch. Biochem. Biophys. 257, 1-12, 1987
A;Title: Rat brain hexokinase: amino acid
A;Reference number: A90080; MUID:87324917
A;Accession: A32521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hexokinase (EC 2.7.1.1) I peptide III - rat (fragment) C:Species: Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   son, D.; Peterson, J.; Kerlavage, A.R.; Quackenbush, J.; Bomman, C.; Garland, S.; Fujil, C.; Cotton, M.D.; Horst Nature 390, 580-586, 1997
A; Authors: Smith, H.O.; Venter, J.C.
A; Title: Genomic sequence of a Lyme disease spirochaete, A; Reference number: A70100, MUID:98065943
A; Accession: A70219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Accession: A32521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Date:
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C;ACCESSION: AVULLY
R;Fraser, C.M.; Casjens, S.; Huang, W.M.; Sutton, G.G.; Clayton, R.; Lathigra, R.;
SON, D.; Peterson, J.; Kerlavage, A.R.; Quackenbush, J.; Salzberg, S.; Hanson, M.;
DD: DO: Carland. S.; Fuili. C.; Cotton, M.D.; Horst, K.; Roberts, K.; Hatch,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hypothetical protein BBB21 - Lyme disease spirochete plasmid B/cp26 C;Species: Borrelia burgdorferi (Lyme disease spirochete) C;Date: 13-Feb-1998 #sequence_revision 13-Feb-1998 #text_change 21-Jul-2000 C;Accession: A70219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Genome:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: GB:AE000792; NID:g3253098; PIDN:AAC66340.1; PID:g2689909; TIGR:BB
A;Experimental source: strain B31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Residues: 1-31 <KLE>
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1; Mismatches
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Pred. No. 1.2e+03;
Pred. No. 1.2e+03;
                                   Acinetobacter sp. (fragment)
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Pred. No. 1.2e
2; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                         sequence at the
                                                                                                                                                                                                            DB 2;
9.4e+02;
les 3;
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1.2e+03
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C5pecies: Streptomyces olivaceoviridis
C5pecies: Streptomyces olivaceoviridis
C5pecies: Streptomyces olivaceoviridis
C5pecies: O1-Apr-1993 #sequence_revision 18-Nov-1994 #text_change 16-Feb-1997
C5Accession: C44908
R7 Romaguera, A; Menge, U; Breves, R; Diekmann, H.
J Bacteriol. 174, 3450-3454, 1992
A,Title: Chithnases of Streptomyces olivaceoviridis and sign:ficance of processing for A; Reference number: A44908; MUID:92276319
A; Accession: C44908
A; Status: preliminary
A; Molecule type: protein
A; Residues: 1-27 CROMP
A; Experimental source: ATCC 11238
A; Experimental source: ATCC 11238
A; Note: Sequence extracted from NCBI backbone (NCBIP:104591)
C; Keywords: glycosidase; hydrolase; polysaccharide degradation
C; Keywords: glycosidase; hydrolase; polysaccharide degradation
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R;Kamamoto, K.; Komatsu, K.
Agric. Biol. Chem. 55, 1459-1466, 1991
A;Fittle: Purification and characterization of nitrilase responsible for the A;Reference number: JU0386; MUID:91345837
A;Accession: JU0386
A;Mclecule type: protein
A;Residues: 1-21 <YAM>
A;Experimental source: strain AK226
C;Comment: The enzyme prefers S-(-)-2-(4'-isobutylphenyl)-propionitrile to C;Keywords: carbon-oxygen lyase; hydro-lyase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         glyceraldehyde-3-phosphate dehydrogenase (EC 1.2.1.12) - fungus (Fusarium sporotrichioles C; Species; Fusarium sporotrichioldes C; Date: 05-Aug-1994 #sequence_revision 05-Aug-1994 #text_change 22-Apr-1995 C; Accession: PN0163 L.P.; Sugiura, Y.; Tsugita, A.; Ueno, Y.; Tabuchi, K. submitted to UFPID, May 1994 A; Description: Two dimensional polyacrylamide gel electrophoresis of Fusarium sporotricl A; Reference number: PN0160 A; Reference number: PN0160 A; Reference number: PN0160 A; Reference number: 1-24 <FUES A; Molecule type: protein A; Residues: 1-24 <FUES C; Superfamily: glyceraldehyde-3-phosphate dehydrogenase C; Keywords: oxidoreductase
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Score 27.5; DB 2;
Pred. No. 1.7e+03;
2; Mismatches 3
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Pred. No. 1.3e+03;
1; Mismatches 3
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Pred. No. 1.1e+03;
2; Mismatches 4
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A;Reference number: A91365; MUID:86301171
A;Recession: A24417
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N;Alternate names: interstitial retinoi-binding protein
C;Species: Oris orientalis aries, Oris ammon aries (domestic sheep)
C;Date: 21-May-1988 #sequence_revision 21-May-1988 #text_change 21-Nov-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            submitted to the EMBL Data A; Reference number: Z25062 A; Accession: T50329
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C;Keywords: duplication
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A; Residues: 1-24 <FON>
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A;Title: N-terminal sequence homologies in interstitial retinol-binding proteins fr
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polygalacturonase (EC 3.2.1.15) P26 - evening primrose (fragment)
C;Species: Oenothera organensis (evening primrose)
C;Date: 31-Mar:1992 *sequence_revision 31-Mar:1992 *text_change 06-Dec-1996
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A;Map position: 2
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A; Residues: 1-19 < LYN>
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                                                             PQ0143
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                                                                                 RESULT
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4; Mismatches
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2e+03;
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R:Brown, S.M.: Crouch, M.L.
Plant Cell 2, 263-274, 1990
A;Title: Characterization of a gene family abundantly expressed A;Reference number: JQ0992; MUID:93005658
A;Accession: PQ0143
A;Molecule type: mRNA

in

Oenothera organens

C; Accession: PQ0143

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RESULT 14

RESULT 14

RESULT 14

RESULT 14

RESULT 14

RESULT 24250 [imported] - Escherichia coli (strain O157:H7, substrain EDL9 C85947

C; Species: Escherichia coli
C; Species: Escherichia coli
C; Date: 16:Feb-2001 #sequence_revision 16:Feb-2001 #text_change 14-Sep-2001
C; Accession: C85947

R; Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Mayhew 11er, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, K.; Apodaca, Nature 409, 529-533, 2001

A; Title: Genome sequence of enterohemorrhagic Escherichia coli O157:H7.
A; Reference number: A85480; MUID:21074935; PMID:112065S1
A; Resession: C85947
A; Status; preliminary
A; Molecule type; DNA
A; Residues: 1.26 (STO.)
A; Cross-references: GB.AE005174; NID:g12517442; PIDN:AAG58039.1; GSPDB:GN00145; UWGP:Z42
A; Experimental source: strain O157:H7, substrain EDL933
C; Genetics:
A; Gene: Z4250
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A28917
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A;Experimental source; pollen
C;Comment: This protein is specifically translated in the pollens.
C;Comment: This protein functions by depolymerizing pectin in the cell walls of the pist y growing tube.
C;Keywords: glycosidase; hydrolase; polysaccharide degradation
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Matches 6
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Best Local Similarity 36.4%;
Matches 4; Conservative
• 6 TEFVFQPELVV 16
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Pred. No. 2.9e+03;
1; Mismatches 4
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Pred. No. 2.4e+03;
4; Mismatches 3
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Pred. No. 2.8e+03;
3; Mismatches 5;
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Search completed: June 18, 2002, 08:18:37 Job time: 125 sec

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Total number of hits satisfying chosen parameters:
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IRBP_SEEP
NS2_NYCTU
GUN_SCHCO
CR33_LITCE
CR34_LITCE
CR34_CALVO
TEML_RANTE
ANGTI_HORSE
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0 schizophyll
0 litoria cae
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3 meleagris g
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oncorhynchu
streptomyce
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6 equus cabal
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ID TYPH_LACCA
ID TYPH_LACCA
AC P19663;
DT 01-FEB-1991 (
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DE Thymidine pho
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OTCX_STAEP
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Matches
Lactobacillus casei.
Bacteria; Firmicutes; l
Lactobacillus.
NCBI_TaxID=1582;
[1]
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Transferase.
NON_TER
SEQUENCE 30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A 42 KDa protein with broad affinity to bind several plass ECM-proteins in lithium chloride extract of Staphylococcus epidermidis is ornithine carbamoyltransferase."; Submitted (FEB-199) to the SWISS-PROT data bank.
-!- FUNCTION: HAS VITRONECTIN AND FIBRONECTIN-BINDING ACTIVIT-CATALYTIC ACTIVITY: Carbamoyl phosphate + L-ornithine.
+ L-oltrulline.
                                                                          DEOA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Staphylococcus epidermidis.
Bactleria; Firmicutes; Bactllus/Clostridium group;
Bactllus/Staphylococcus group; Staphylococcus.
NCBI_TaxID=1282;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
Probable ornithine carbamoyltransferase (EC 2
                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
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SIMILARITY: BELONGS TO THE ATCASES/OTCASES FAMILY.
erpro; IPRO02029; Carbmyltransf asor.
SITE; PS00097; CARBAMOYLTRANSFERASE; PARTIAL.
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COXK_SHEEP
CYH1_VIOHE
Y523_BORBU
FARB_ASCSU
AMP_EUSNU
LOAGS_RAT
DNAK_CLOPA
DCMS_PSECA
ACHS_LITAR
AU51_LITAR
AU52_JACOR
                                                                                                                                                                                                                                                                                           Score 32.5; [
Pred. No. 1.46
5; Mismatches
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Matches 6
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*Purification and characterization of uridine and thymidine
phosphorylase from Lactobacillus casei.";

Blochim. Blophys. Acta 1040:287-293(1990)
-1- FUNCTION: THE ENZYMES WHICH CATALYZE THE REVERSIBLE PHOSPHORYLOSIS
-0F PYRIMIDINE NUCLEOSIDES ARE INVOLVED IN THE DEGRADATION OF THESE
COMPOUNDS AND IN THEIR UTILIZATION AS CARBON AND EMERGY SOURCES,
OR IN THE RESCUE OF PYRIMIDINE BASES FOR NUCLEOTIDE SYNTHESIS.
-1- CATALYTIC ACTIVITY: Thymidine + phosphate = thymine + 2-deoxy-D-
-1- SUBUNIT: HOMODIMER.
-1- SUBUNIT: BELONGS TO THE THYMIDINE/PYRIMIDINE-NUCLEOSIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-ATCC 7469;
MEDILINE-90381286; PubMed-2119230;
Avraham Y., Grossowicz N
                                                                                                                                                                                                                                                                                                                                                                                                                    01-FEB-1994
01-FEB-1994
16-OCT-2001
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InterPro; IPR0000173; GAP_DH.
InterPro; IPR000053; Thymid_phosphls.
Pfam; PF00044; 9pdh; 1.
PROSITE; PS00647; THYMID_PHOSPHORYLASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Transferase; Glycosyltransferase, NON_TER 23 23
                DictyDb; DD05049; pkgD.
DictyDb; IPR000719; Euk_pkinase.
InterPro; IPR00299; Ser_thr_pkinase.
                                                                                                        use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                   the
                                                                                                                                                                                                                                   "Identification of a protein kinase multigene family of Dictyostelium discoldeum: molecular cloning and expression of a CDNA encoding a developmentally regulated protein kinase."

Proc. Natl. Acad. Sci. U.S.A. 88:1115-1119(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PK4_DICDI
                                                                  EMBL; M59747; AAA33189.1; PIR; D38578; D38578.
                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the E
                                                                                                                                                                                                                                                                                                       MEDLINE=91142122; PubMed=1996312;
                                                                                                                                                                                                                                                                                                                                                              Dictyostelium discoideum (Slime mold). Eukaryota; Mycetozoa; Dictyosteliida;
                                                                                                                                                                                                                                                                                                                                                                                                        Protein kinase
PROSITE;
                                                                                                                                                                                                                       - !- SIMILARITY: BELONGS TO THE SER/THR FAMILY OF PROTEIN KINASES
                                                                                                                                                                                                                                                                                           Haribabu B., Dottin R.P.;
                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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6; Conserv
PS00107; PROTE
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(EC
PROTEIN_KINASE_ATP; PARTIAL
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2.7.1.-) (Fragment).
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Pred. No. 1.8e+02
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  (See http://www.isb-sib.ch/announce/
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P80661;
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                                                                            P22775;
01-AUG-1991
01-AUG-1991
16-OCT-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kasten B., Buck F., Nuske J., Reski R.;
"Cytokinin affects nuclear- and plastome-encoded energy-converting plastid enzymes.";
Planta 201:261-272(1997).
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01-0CT-1996 (Rel. 34, Last sequence update)
01-0CT-2001 (Rel. 40, Last annotation update)
16-0CT-2001 (Rel. 40, Last annotation update)
                 Panulirus interruptus (California spiny lobster).
Eukaryota; Metazoa; Arthropoda; Crustacea; Malacostraca;
                                                        Fibrinogen (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Photosynthesis; Photosystem
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=97275459; PubMed=9129336;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
Eumalacostraca;
                                                                                                                                                               FIBR_PANIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10 IKLIDFGFAKRI 21
                                                                                                                                                                                                                                                                    10
                                                                                                                                                                                                                                                                                                           6 ANSKFIGITEFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION: MAY BE INVOLVED IN THE SUBCELLULAR LOCATION: Chloroplast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INDUCTION: BY LIGHT.
SIMILARITY: BELONGS TO THE PSBP FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      with the photosystem II complex.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IGITEFGFPEHL
                                                                                                                                                                                                                                                                    AGNGFTXITEYG
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5; Conserve
                                                                                                                                                                                                                                                                                                                                                       Similarity 6; Conser
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1 (Rel. 19,
1 (Rel. 40,
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                                                                                                                                                                    STANDARD;
Eucarida;
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2316
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41.78;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             MW;
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Decapoda;
                                                                                                       sequence
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                       Score 30; DB 1;
Pred. No. 2.4e+02;
2; Mismatches 4
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  Pleocyemata;
                                                                                                       update;
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t thylakoid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             kinase;
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2.3e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thylakoid; Membrane,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or PHOTOSY membrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hyta; Bryophyta;
Physcomitrella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         subunit of oxygen
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RESULT 6
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                  *Purification and characterization of nitrilase responsible for the enantioselective hydrolysis from Acinetobacter sp. AK 226.*;
Agric Biol. Chem. 55:1459-1466(1991).

-i- FUNCTION: ACTS ON MANY KINDS OF NITRILE COMPOUNDS SUCH AS
-i- FUNCTION: ACTS ON MANY KINDS OF NITRILE COMPOUNDS SUCH AS
-i- FUNCTION: ACTS ON MANY KINDS OF NITRILE COMPOUNDS SUCH AS
-i- FREERS S-(-)-2-(4'-ISOBUTYLPHENYL)-FROPIONITRILES OR DINITRILES.

PREERS S-(-)-2-(4'-ISOBUTYLPHENYL)-FROPIONITRILE TO R-(+)-2-(4'-ISOBUTYLPHENYL)-FROPIONITRILE AS THE SUBSTRATE.
-i- CATALYTIC ACTIVITY: A DILCHE + H(2)0 - a carboxylate + HH(3).
-i- SIMILARITY: BELONGS TO THE NITRILASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-0CT 1993 (Rel. 27, Created)
01-0CT 1993 (Rel. 27, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation updat
Nitrilase (EC 3.5.5.1) (Fragment),
Acinecobacter sp. (strain AK226)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The amino-terminal sequence of lobster fibrinogen reveals common ancestry with vitellogenins.";
Biochem. Biophys. Res. Commun. 167:16-19(1990).

-- FUNCTION: CLOTTING PROTEIN.

-- SUBURIT: HOMODIMER.

-- SUBURIT: HOMODIMER.

-- SUBURIT: HOMODIMER.

-- SUBCELLULAR LOCATION: Extracellular.

-- TISSUE SPECIFICITY: SUCCEPTED INTO THE HEMOLYMPH.

-- SIMILARITY: TO VITELLOGENINS.

PIR; A34622; A34622.
                                                                                                                                                                                                                                                                                                                              PIR. JU0386. JU0386.
InterPro; IPR000132; Nitril_cyn_hydratase.
PROSITE; PS00920; NITRIL_CHT_1; PARTIAL.
PROSITE; PS00921; NITRIL_CHT_2; PARTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-91345837; PubMed-1369128; Yamamoto K., Komatsu K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Acinetobacter.
NCBI_TaxID-472;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacteria; Proteobacteria; gamma subdivision; Moraxellaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NRLA_ACISP
P33036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glycoprotein; Lipid-binding; Hemolymph clotting
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NCBI_TaxID-6735;
                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                      Hydrolase.
                                                                                                                                                           Local Similarity
hes 5; Conser
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                                                                VSYNSKELAAT 11
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5; Conser
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38.5%;
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45.5%;
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Pred. No. 4.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A48C8AAF18E0794C CRC64
                                                                                                                                                                               Score 28; DB 1;
Pred. No. 4.6e+02
                                                                                                                                                                                                                                                                            5FA741C41EAC619B CRC64;
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Best Local
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CHI2_STROI STANDARD; PRT; 27 AA.
P29116;
01-DEC-1992 (Rel. 24, Created)
01-DEC-1992 (Rel. 24, Last sequence update)
01-DEC-1992 (Rel. 24, Last annotation update)
Chitinase 47 kDa (EC 3.2.1.14) (Fragment).
Streptomyces olivaceoviridis (Streptomyces occhorusii).
Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
Actinomycetales; Streptomycineae; Streptomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IRBP_SHEEP STANDARD; PRT; 24 AA.
pl2663;
01-OCT-1989 (Rel. 12, Created)
01-OCT-1989 (Rel. 12, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
Interphotoreceptor retinoid-binding protein (IRBP) (Interstitial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDILINE-92276319; PubMed-1592803;

MEDILINE-92276319; PubMed-1592803;

MEDILINE-92276319; PubMed-1592803;

Romaguera A., Menge U., Breves R., Diekmann H.;

Romaguera A., Menge U., Breves R., Diekmann H.;

"Chitinases of Streptomyces olivaceoviridis and significance of processing for multiplicity.";

J. Bacteriol. 174:3450-3454(992).

-I- SUNCTION: ABLE TO CLEAVE CHITIN OLIGOMERS FROM N=3 TO 6.

-I- CATALYTIC ACTIVITY: Hydrolysis of the 1,4-beta-linkages of N-acetyl-D-glucosamine polymers of chitin.

-I- SUBUNIT: HOMOLNER.

-I- SUBUNIT: HOMOLNER.

-I- SUBUNIT: HOMOLNER.
                                                                                                                                                                                                                                                                                                              Mammalia; Eutheria;
Bovidae; Caprinae; '
NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro: IPR001579; Chitinase_2.
InterPro: IPR001223; Glyco.hydro_18.
Pfam; PF00704; Glyco.hydro_18; I.
PROSITE; PS01095; CHITINASE_18; PARTIAL.
Hydrolase; Glycosidase; Chitin degradation.
NON_TER 27 27
SEQUENCE 27 AA; 3172 MW; E9549D5E273DFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HYDROLASES).
PIR; C44908; C44908.
                                                                                                                                                                Fong S.L., Cook R.G., Alvarez R.A., Liou G.I., Langers R.A., Bridges C.D.B.;
"N-terminal sequence homologies in interstitial retinol-binding
                                                                                                                                                                                                                                                                                                                                                                                                              Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=1921;
            FEBS. Lett. 205;309-312(1986).

- PUNCTION: IRBS SHUTTLES 11-CIS AND ALL TRANS RETINOIDS BETWEEN THE RETINOL ISOMERASE IN THE PIGMENT EPITHELIUM AND THE VISUAL PIGMENTS IN THE PHOTORECEPTOR CELLS OF THE RETINA.

- SUBCELLULAR LOCATION: INTERPHOTORECEPTOR MATRIX THAT PERMEATES
THE SPACE BETWEEN THE RETINA AND THE CONTIGUOUS LAYER OF PIGMES
THE SPACE BETWEEN THE RETINA AND THE CONTIGUOUS LAYER OF PIGMES
                                                                                                                                                      proteins from 10 vertebrate species.";
                                                                                                                                                                                                                                                   MEDLINE-86301171; PubMed-3743780;
                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          retinol-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
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7; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein) (Fragment)
                                                                                                                                                                                                                                                                                                                                           OVIS.
                                                                                                                                                                                                                                                                                                                                                             Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17.0%;
53.8%;
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Pred. No. 7
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                    THE CONTIGUOUS LAYER OF PIGMENT
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Length 27;

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Bovoidea

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RESULT NS2_MYC ID NS2_
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Vitamin A; Transport.
NON_TER 24 24
SEQUENCE 24 AA; 279
                                                                                                                                                                                                                                                                                                                                                                                GUN_SCHCO STA
P81190;
15-JUL-1998 (Rel.
15-JUL-1998 (Rel.
15-JUL-1998 (Rel.
-!- CATALILL .... Alinkages in cellulose.
-!- SUBCELLULAR LOCATION:
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SEQUENCE
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p81136;
p81136;
15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
16-QCT-2001 (Rel. 40, Last annotation update)
30 kDa non-secretory protein 2 (Bragment)
Mycobacterium tuberculosis.
Mycobacteria; Firmicutes; Actinobacteria; Actinobacteridae; Bacteria; Firmicutes; Actinobacteriaes. Mycobacteriaes.
                                                                                   Clarke A.J., Drummelsmith J., Yaguchi M.;
'Identification of the catalytic nucleophile in the
Schizophyllum commune and assignment of the enzyme t
subtype 5 of the glycosidases.';
FEBS Lett. 414:359-361(1997).
                                                                                                                                                                                                                                                     Schizophyllum commune (Bracket fungus).
Eukaryota; Fungi; Basidiomycota; Hymenomycetes;
Stereales; Schizophyllaceae; Schizophyllum.
NCBI_TaxID=5334;
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                                                                                                                                                                                           MEDLINE=97459758, PubMed=9315718;
                                                                                                                                                                                                                  SEQUENCE
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. 36, Last sequ
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C 3.2.1.4) (End
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annotation update)
(Endo-1,4-beta-glucanase)
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Pred. No. 7.5e
4; Mismatches
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Pred. No. 8.26
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Best Local s
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15-JUL-1998
15-JUL-1998
16-OCT-2001
Caerin 3.3.
                                  15-JUL-1998
15-JUL-1998
16-OCT-2001
Caerin 3.4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lipoprotein.
ACT_SITE
NON_TER
SEQUENCE 28
Eukaryota;
Amphibla; E
Litoria.
                                                                                                                                                                                                                       -!- MASS SPECTROMETRY: MW-2424; METHOD-FAB
Antibiotic; Amphibian skin; Amidation.
MOD_RES____22 22 AMIDATION.
                                                                                                                                                                                                                                                          Litoria caerula.*;

J. Chem. Res. 138:910-936(1993).

-I- FUNCTION: ANTIBACTERIAL PEPTIDE, THAT ADOPTS AN ALPHA HELICAL CONFORMATION WHICH CAN DISRUPT BACTERIAL MEMBRANES. EACH CAER DISPLAYS A DIFFERENT ANTIMICROBIAL SPECIFICITY.

-I- TISSUE SPECIFICITY: SECRETED BY THE SKIN PAROTOID AND/OR ROST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS00659; GLYCO Cellulose degradation;
                                                                                                                                                                                                                                                                                                                 TISSUE-Parotoid gland;
Stone D.J.M., Waugh R.J., Howie J.H., Wallace J.C.,
"Peptides from Australian frogs. The structures of
                                                                                                                                                                                                                                                                                                                                                                               Litoria caerulea (Green tree frog).
Eukaryota; Metazoa; Chordata; Craniata; Ve
Amphibia; Batrachia; Anura; Neobatrachia;
                  Litoria caerulea (Green tree frog).
Eukaryota; Metazoa; Chordata; Craniata;
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SIMILARITY: BELONGS
HYDROLASES).
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pS00659; GLYCOSYL_HYDROL_F5; PARTIAL.
degradation; Hydrolase; Glycosidase;
          Batrachia;
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(Rel.
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          Neobatrachia;
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Pred. No. 1.4e+03;
0; Mismatches 5
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KAB5_OLDAF
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Stone D.J.M., Waugh R.J., Bowie J.H., Wallace J.C., Tyler M.J.;
Stone D.J.M., Waugh R.J., Bowie J.H., Wallace J.C., Tyler M.J.;
Peptides from Australian frogs. The structures of the caerins from Litoria caerula.",
J. Chem. Res. 138:910-936(1993).
J. Chem. Res. 138:910-936(1993).
J. CHEMICTON: ANTHACTERIAL PEPTIDE, THAT ADOPTS AN ALFHA HELICAL CONFORMATION WHICH CAN DISUDET BACTERIAL MEMBRANES. EACH CAERIN DISPLAYS A DIFFERENT ANTIMICROBIAL SPECIFICITY.

TISSUE SPECIFICITY: SECRETED BY THE SKIN PAROTOID AND/OR ROSTRAI
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P12662;
01-0CT-1989 (Rel. 12, Created)
01-0CT-1989 (Rel. 12, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
Interphotoreceptor retinoid binding protein (IRBP) (Interstitial
                                                                                                                                                                                                                                                                                                                                                                            Vitamin A; Transport
NON_TER 25
SEQUENCE 25 AA; 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROCEINS FROM 10 VERTEBREATE SPECIES.";
FEBS LETT. 205:309-312(1986).
-I- FUNCTION: IRBP SHUTTLES 11-CIS AND ALL TRANS RETINOIDS BETWEEN
THE RETINOL ISOMERASE IN THE PIGMENT EPITHELIUM AND THE VISUAL
PIGMENTS IN THE PHOTORECEPTOR CELLS OF THE RETINA.
-I- SUBCELLULAR LOCATION: INTERPHOTORECEPTOR MATRIX THAT PERMEATES
THE SPACE BETWEEN THE RETINA AND THE CONTIGUOUS LAYER OF PIGMEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE~86301171; PubMed=3743780; Fong S.L., Cook R.G., Alvarez R.A., Bridges C.D.B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
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01-MAR-2002 (Rel. (
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P80393;
01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
Antimicorbial peptide Type (Turkey heterophil peptide 3) (Fragment).

Meleagris gallopavo (Common turkey).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosaurla; Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.

NCBL_TaxID-9103;
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                                                                                                          Antibiotic.
NON_TER
SEQUENCE 2
                                                                                                                                                                      Evans E.W., Beach G.G., Wunderlich J., Harmon B.G.;
"Isolation of antimicrobial peptides from avian heterophils.";
J. Leukoc. Biol. 56:661-665(1994).
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12 GITEFG-FPEHLL
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Search completed: June 18, 2002, 08:21:34 Job time: 197 sec

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192800 streptomyce
192416 mycoplasma
19zaa4 rhodobacter
03717 mohapatitis c
Q93jy7 mycobacteri
Q9dtv7 human t-cel
Q9r415 mycoplasma
Q46081 clostridium
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O1-JAN-1998 (TIEMBLIEL. 05, Created)
O1-JAN-1998 (TIEMBLIEL. 05, Last sequence update)
O1-DEC-2001 (TIEMBLIEL. 19, Last annotation update)
GENOME POLYPROTEIN [CONTAINS: ENVELOPE GLYCOPROTEIN (NS1)] (FRAGMENT).
                                                                                                                                                                                                                              Navas S., Martin J., Quiroga J.A., Castillo I., Carreno V.; "Genetic diversity and tissue compartmentalization of the hepatitis C virus genome in blood mononuclear cells, liver, and serum from chronic hepatitis C patients."; J. Virol. 72:1640-1646(1998).
EMBL: AF018388; AA003675.1; -.
                                                                                                                                          NON_TER
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InterPro; IPR002531; HCV_NS1.
Pfam; PF01560; HCV_NS1; 1.
Coat protein; Envelope protein;
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Pred. No. 2.7e+02;
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Q9GJP4;
Q1-MAR-2001 (TrEMBLrel. 16, Created)
Q1-MAR-2001 (TrEMBLrel. 15, Last sequence update)
Q1-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                            THDF (FRAGMENT).
Borrelia burgdorferi (Lyme disease spirochete)
Bacteria; Spirochaetales; Spirochaetaceae; Bor
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostom
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Actinoptorygii; Neopterygii; Teleostei; Euteleostei; Neoteleost
Acanthomorpha; Acanthopterygii; Percomorpha; Gasterosteiformes;
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                                                                                                                                                                                                         SEQUENCE FROM N.A.
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Euteleostei; Neoteleostei;
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Bacteria; Chlamydiales; Chlamydiaceae; Chlamydia.
NCBI_TaxID=813;
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O1-MAY-1999 (TrEMBLrel. 10, Created)
O1-MAY-1999 (TrEMBLrel. 10, Last seq
O1-MAY-1999 (TrEMBLrel. 10, Last ann
UDP-N-ACETYLMURAMATE ALANINE LIGASE
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O1-MAY-2000 (TIEMBLIE1. 13, Created)
O1-MAY-2000 (TIEMBLIE1. 13, Last sequence update)
O1-JUN-2001 (TIEMBLIE1. 17, Last annotation updat
40 KDA STREPTOCOCCAL GROUP A SURFACE GLYCERALDEHY
DEHYDROGENASE HOMOLOG (FRAGMENT).
                                                                                                                                Submitted (AUG-1998) to the EMBL; AF087346; AAD04119.1;
                                                                                                                                                    sequencing."
                                                                                                                                                             Wang L., Steenburg S.D., Zheng Y., "Gene identification of Chlamydia
                                                                                                                                                                                  STRAIN-L2 434B;
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InterPro; IPR000173; GAP_DH.
Pfam; PF00044; gpdh; 1.
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Infect. Immun. 64.3547.1996).
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Pred. No. 6.3e+02;
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Q25161;
Q1-NOV-1996
Q9GJP6;
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01-MAR-2001
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Tokumitsu H., Mizutani A., Minami H., Kobayashi R., Hidaka A. Acalcyclin-associated protein is a newly identified membe Ca2+/phospholipid-binding proteins, annexin family.";
J. Biol. Chem. 267:8919-8924(1992).
SEQUENCE 19 AA; 2018 MW; 9A54062504B8322E CRC64;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CALCYCLIN-ASSOCIATED PROTEIN, L-14 FRAGMENT.
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Mammalia; Eutheria; Lagomorpha; Leporidae;
NCBI_TaxID-9986;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Porifera; Demospongiae;
Haplosclerida; Chalinidae; Haliclona.
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6; Conservative
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01-NOV-1996 (TIEMBLIEL 01, Last sequence update)
01-NOV-1996 (TIEMBLIEL 01, Last sequence update)
01-NOV-1998 (TIEMBLIEL 08, Last annotation update)
HYPOTHETICAL PROTEIN IN PTH4 PROMOTER (FRAGMENT).
Streptomyces coelicolor.
Bacteria; Firmicutes; Actinobacteria; Actinobacterida
Actinomycetales; Streptomycineae; Streptomycetaceae;
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Submitted (MAR-2000) to the
EMBL; AF249303; AAF98326.1;
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Eukaryota: Metazoa: Chordata; Craniata; Vertebrata; Euteleostomi;
Acthopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Gasterosteiformes;
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01-NOV-1996
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Submitted (OCT-1992) to the
EMBL; X68791; CAA48685.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                               "Two developmentally controlled promoters of Streptomyces coelicolor A3(2) that resemble the major class of motility-related promoters in other bacteria.";
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MEDLINE-93163057; PubMed-7679386;
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"Anti-tumor activity of arginine deiminase from Myco
its growth inhibitory mechanism.";
Jpn. J. Cancer Res. 86:840-846(1995).
SEQUENCE 30 AA; 3389 MW; 66DA98752F6D6694 CRC64;
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098416; O1-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
01-MAY-2000 (TrEMBLRel. 13, Last annotation update)
ARGININE DEMINASE (EC 3.5.3.6) (FRAGMENT).
Mycoplesma_arginini.
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Bacteria; Proteobacteria; alpha subdivision; Rhodobacter
Hepatitis
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Mani C., Selvakumar N., Narayanan S., Narayanan P.R
"Mutations in the rpoB gene of multidrug-resistant
tuberculosis clinical isolates from India.";
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J. Virol. 72:1640-1646(1998).
EMBL; AF018289; AAC03570.1; ".
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MEDLINE-98105815; PubMed-9445070;
Navas S., Martin J., Quiroga J.A., Castillo I., Carreno V.
Navas S., Martin J., Quiroga J.A., Castillo I., Carreno V.
"Genetic diversity and tissue compartmentalization of the "Genetic diversity and tissue compartmentalization" and tissue compartmentalization of the "Genetic diversity and tissue compartmentalization" and tissue compartmentalization of the "Genetic diversity and tissue compartmentalization" and tissue compartmentalization of the "Genetic diversity" and the "Genetic diversity" and "Genetic diversity and "Genetic diversity" and "Genetic diversity"
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NCBI_TaxID=11103;
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BL; AJ297926; CAC50347.1; -
A-directed RNA polymerase.
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Furukawa Y., Kubota R., Tara M.
Furukawa Y., Kubota R., Tara M.
"Existence of escape mutation i
T-cell leukemia.";
Troell leukemia.";
Immunology 97:987-993(2001).
EMBL; AB045431; BAB20130.1; -.
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09R415;
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01-MAY-2000 (TIEMBLIEL 13, Last sequence update)
ARGININE DEIMINASE (EC 3.5.3.6) (FRAGMENT).
Mycoplasma hominis.
Bactleria; Firmicutes; Bacillus/Clostridium group; Mollicutes;
Mycoplasmataceae; Mycoplasma.
                                                                                                                                                                 MEDIJINE-96042668; PubMed-7591961;
Takaku H., Matsumoto M., Misawa S., Miyazaki K.;
Takaku H., Matsumoto M., Misawa S., Miyazaki K.;
"Anti-tumor activity of arginine deiminase from Mycoplasma argini and its growth-inhibitory mechanism.";
Jpn. J. Cancer Res. 86:840-846(1995).
SEQUENCE 30 AA; 3389 MW; 93DC43752F6D6022 CRC64;
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/label= B-cell\_epitope /note= "B-cell epitope comprises the C-terminal 16 amino acids of human CETP (Claim 5)"

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epitope	g" pitope pitope of tet	Qualifiers -terminal Cys residue n linking the peptide		ster transfer protein; CETP; antigen; r disease; atherosclerosis.	fer peptide vaccine			31 AA.	ALIGNMENTS	AAB98456	AAG89380	AAG88284 AAG89365	AAG88268	AAG84516	AAG62427	AAU06292	AAM99514	AAY99277	AAY99127	AAY23251	AAW50108	AAW03003 AAW35437	AAR74160	AAR75943	AAR78918	AAR46509	AAR06309	AAR62701	AAY53552	AAY82632	AAR83561	)
es the C-terminal 16	es amino ac	is present for use to itself or other		gen; vaccine;	o.					Tetanus toxoid pep	ᆤ	Human leukocyte an Tetanus toxoid 830	is toxold 83	Tetanus toxoid 830	Tetanus toxoid pro	Human Leukocyte An Tetanus toxoid pen	Vaccine related Mi	HLA class II bindi	HLA CLASS II bindi	Peptide derived fi	Pan DR binding per	Carrier peptide id T-cell stimulatory	Antigenic peptide	Thelper epitope f	tanus	Tetanus toxoid res	etanus	109	Lipopeptide #3. S	id	igE CH4 region con	

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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A synthetic peptide vaccine comprises an immunogenic helper T-ce epitope of tetanus toxold protein covalently linked to the C-terminal B-cell epitope of human cholesteryl ester transfer protein (CETP) (see also AAW06127) that is involved in a neutral lipid binding or a transfer activity of CETP. The vaccine elici
The specification describes a vaccine that promotes the production antibodies that bind endogenous cholesteryl ester transfer protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 high-density lipoprotein-associated cholesterol; metabolism; low-density lipoprotein-associated cholesterol; atherosclerotic lesion; cholesterol; atherosclerosis; heart disease.
                                                                               Disclosure; Page 55; 61pp;
                                                                                                                                                                                                                                                                                                                                                                                     20-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vaccine; antibody; endogenous; cholesteryl ester transfer protein; CETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fusion of a tetanus toxoid fragment and C-terminal of human CETP
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                                                                                                                                                                                                                                                                                   (AVAN-)
                                                                                                                                                                                                                                                                                                                                       20-OCT-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           decreasing the risk of developing a cardiovascular disease e.g.
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31; Conserv
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                                                                                                                                                                                                                                                                                AVANT IMMUNOTHERAPEUTICS
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Pred. No. 4.6e-18;
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                          The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibodies to lessen transfer of cholesteryl esters from high density lipoprotein (HDL). The method can provide an autogenic immunological process for lessening transfer of cholesteryl esters from HDL particles and for increasing HDL cholesterol concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/DL cholesterol ratios. The method can affect that lasts for months as compared to the short-term effects of the small molecule drugs now available.
Sequence
                                                                                                                                                                                      This sequence represents an immunogenic fragment of the rabbit cholesteryl ester transferase protein (CETP).
                                                                                                                                                                                                                                      Disclosure; Page 75; 99pp; English.
                                                                                                                                                                                                                                                                      New recombinant DNA vaccines
                                                                                                                                                                                                                                                                                                     WPI; 1999-276984/23
                                                                                                                                                                                                                                                                                                                                      Glenn
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Oryctolagus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CETP; cholesteryl-ester transfer protein; recombinant DNA vaccine; antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (CETP). The vaccines (and equivalent plasmid-based vaccines) are used to increase the ratio of circulating high-density lipoprotein (HDL)-associated cholesterol to low-density lipoprotein (LDL)-associated cholesterol; to decrease the level of endogenous CETP activity in humans or other animals; to alter metabolism of LDL-associated cholesterol, for inhibiting development of atheroscierotic lesions; to lower circulating levels of LDL and total cholesterol; and to treat or prevent
                                                                                                                                                                                                                                                                                                                                                                   (MONS)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            osis (or more generally heart disease). The present sequence the course of the invention.
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Pred. No. 4.6e-18;
Mismatches 0;
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Best Local
                                                                                                                                                                                                     cholesteryl ester transferase protein (CETP).

The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibod:es to lessen the encoding CETP, which can be used for producing antibod:es to lessen the transfer of cholesteryl esters from high density lipoprotein (HDL). The method can provide an autogenic immunological process for lessening the transfer of cholesteryl esters from HDL particles and for increasing the HDL cholesterol concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/LDL toblesterol ratios. The method can have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
            AAW06128 standard; Peptide;
                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                              This sequence represents an immunogenic fragment of the human
                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 88; 99pp; English
                                                                                                                                                                                                                                                                                                                                                                                                 New recombinant DNA vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MONS ) MONSANTO CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-SEP-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human CETP immunogenic fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY13821;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY13821 standard; peptide;
                                                                                               15
                                                                                                                                  Local
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                                                                                          EFGFPEHLLVDFLQSLS 31
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                                                                        dfgfpehllvdflqsls 22
                                                                                                                       L Similarity
16; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Needleman
                                                                                                                                                                                    22 AA;
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                                                                                                                        Conservative
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94.1%;
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            26 AA
                                                                                                                       Score 85; DB
Pred. No. 2.8e
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 85; DB 20;
Pred. No. 2.8e-06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
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                                                                                                                       DB 20;
2.8e-06;
ches 0;
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RESULT
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Best Local :
                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                    A B-cell epitope (AAW06128) comprising the C-terminal 26 amino acids of human liver mature cholesteryl ester transfer protein (CETP) (see also AAW06127) is involved in a neutral lipid binding or a transfer activity of CETP. It can be linked to a universal or broad range immunogenic T-cell epitope, such as that found at amino acids 830-843 of tetanus toxoid protein, to produce a synthetic vaccine (see also AAW06129) that elicits an immune response against endogenous CETP activity, thereby treating or preventing cardiovascular disease, such as atherosclerosis. It may also be incorporated into a multivalent vaccine (see also AAW06131) including another CETP B-cell epitope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cholesteryl ester transfer protein B cell epitope linked to T cell epitope - used to generate vaccine to regulate CETP activity for decreasing the risk of developing a cardiovascular disease e.g.
                                  CETP; cholesteryl-ester transfer protein; recombinant DNA vaccine; HDL; antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 5; Page 41; 72pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY-1995;
            Oryctolagus sp
                                                                                                                                 08-JUL-1999
                                                                                                                                                              AAY13801;
                                                                                                                                                                                    AAY13801 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1996-506103/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rittershaus CW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAY-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-FEB-1997
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                                                                                                       Rabbit CETP immunogenic fragment.
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                                                                                                                                                                                                                                                        10 dfgfpehllvdflqsls 26
                                                                                                                                                                                                                                                                                                              Local Similarity
nes 16; Conser
                                                                                                                                                                                                                                                                                   15 EFGFPEHLLVDFLQSLS 31
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                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                 (first
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                                                                                                                                 entry)
                                                                                                                                                                                                                                                                                                                          52.5%;
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                                                                                                                                                                                      26
                                                                                                                                                                                                                                                                                                                         Score 85;
Pred. No.
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                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                          3.4e-06;
                                                                                                                                                                                                                                                                                                                                      DB 17;
                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                      Length 26
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01-APR-1999 WO9915655-A1

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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This sequence represents an animonal (CETP). cholesteryl ester transferase producting antibodies to lessen percoding CETP, which can be used for producting antibodies to lessen transfer of cholesteryl esters from high density lipoproted (HDL) transfer of cholesteryl esters from high density lipoproted (HDL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glenn K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      method can provide an autogenic immunological process for lessening the transfer of cholesteryl esters from HDL particles and for increasing the process of the state of the state of a mammal whose blood also contains the content of the method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/LDL cholesterol ratios. The method can have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New recombinant DNA vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MONS ) MONSANTO CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-SEP-1998;
                                                                                                                                                                                               somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; plasmodium falciparum; circumsporozoite; antimalarial; CETP;
                                                                                                                                                                                                                                        promiscuous T-cell epitope; measles virus F protein; MVF;
hepatitis B virus surface antigen; HBV; immunogenic; B-cell
luteinising hormone releasing hormone; LHRH; contraceptive;
                                                                                                                                                                                                                                                                                                                                                                              AAY91228 standard; peptide; 26
                                                                    21-JUN-1999;
                                                                                                29-DEC-1999
                                                                                                                           W09966957-A2
                                                                                                                                                       OMOH
                                                                                                                                                                                 cholesteryl ester
                                                                                                                                                                                                                                                                                                                          22-MAY-2000
                                                                                                                                                                                                                                                                                                                                                    AAY91228
             (UNBI'-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                   10 dfgfpehllvdflqsls 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence represents an immunogenic fragment of the
                                                                                                                                                       sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15; Page 85; 99pp; English
                                                                                                                                                                                                                                                                                             cholesteryl transport protein (CETP) peptide,
             UNITED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Needleman
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                                                                                                                                                                                                                                                                                                                         (first entry)
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               BIOMEDICAL INC
                                         98US-0100412
                                                                    99WO-US13975
                                                                                                                                                                                    transport protein; anti-arteriosclerotic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      52.5%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 85;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                   ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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                                                                                                                                                                                                                                                                                                SEQ ID
                                                                                                                                                                                                                                                                                                  NO:106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                         anticancer;
                                                                                                                                                                                                                                                          epitope;
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10 15

dfgfpehllvdflqsls 26 EFGFPEHLLVDFLQSLS 31 Query Match Best Local Similarity

52.5%;

Score 85; DB 21; Pred. No. 3.4e-06 1; Mismatches

Length 26

0;

Gaps

0

Conservative

26

protein epitope from Yersinia species, and hinge spacer peptide, which may optionally be used in the antigenic peptides of the inv Note: Sequence AAY91227 is also designated SEQ ID NO:106 in the AAY91198 and AAY91199 are respectively an immunostimulatory invasin

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cc epitope Any 1221 - your and any be used to prevent HIV cc infection of T cells. Any 90212 is a modified version of a human IgE cc infection of T cells. Any 90212 is a modified version of a human IgE cc infection of T cells. Any 90212 is a modified version of a human IgE cc antigenic peptides which may be used in the treatment of allergies. Cc any 91220 is a peptide derived from foot and mouth disease virus (FMDV) cc vpi capsid protein and Any 91221-y91222 comprise this peptide and a Th cc epitope. Any 91223 is a plasmodium falciparum circumsporozoite (CS) target cc antigen, and Any 91224-y91225 comprise the CS antigen and an MVF Th cc epitope. Any 91224-y91225 comprise the CS antigen and an MVF Th cc epitope and may be used in a malaria vaccine. Any 91228-y91231 represent CC exprederived peptides and any 401232-y91241 are immunogens comprising a CC expection and a Th epitope which may be used to prevent or treat CC are HTV-1 neutralising B-cell epitopes, and Any 9124-y91251 and cany 91258-y91273 are antigenic peptides comprising MVH Th and HTV-1 B-cell cc any 9120 and any 910 used as a component in an anti-HTV-1 vaccine. Any 9120 and any 910 used as a component in an anti-HTV-1 vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cc treating allergies or arteriosclerosis. Incorporation of a promiscuous crimeroves capacity to induce a strong T helper cell-mediated immune cc improves capacity to induce a strong T helper cell-mediated immune cresponse, resulting in production of antibodies against a target cresponse, resulting in production of antibodies against a target captiopes. The can replace carrier proteins and pathogen-derived T helper cell-mediated immune complications. Sequence AAY91121 represents a promiscuous T helper epitopes. Sequence AAY91121 represents a promiscuous Thelper cell-from the measles virus f (MFV) protein and sequences AAY91122-Y91142.

CC AAY91226 and AAY91245-Y91246 represent synthetic Thepitopes based on the complex tits B virus (HBV) surface antigen, and sequences are complex to the complex complex complex complex complex consideration of the complex constitution of the complex complex complex consideration of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against Plasmodium falciparum, cholesteryl ester transport
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immunotherapy; for inhibition of the action of luteinising hormone releasing hormone (LHRI) for contraception, treatment of hormone dependent cancer, prevention of boar taint in meat, and immunocastration); for promoting the growth of animals; or for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 10; Page 49; 129pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2000-160564/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wang CY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptides comprising somatostatin and a Th epitope. Somatostatin immunogens may be used to promote growth in livestock. AAY91208 is a human CD4 CDR2-like domain antigenic site, and AAY91209-Y90211 are MVH Th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              invention relates
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RESULTY
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ACC AAY

The invention relates to novel promiscuous T helper cell epitopes (Th), CC along with B cell epitopes. The Thepitopes of the invention CC along with B cell epitopes. The Thepitopes and peptide immunogens CC specifically against plasmodum falciparum, cholesteryl ester transport CC protein (CEFP) or HIV epitopes, but more generally against any pathogen, CC immunoreactive self-antigen or tumour antigen. The Thepitopes and peptide immunogens may be used for prevention and/or treatment of contractions (HIV, foot-and-mouth disease or malaria); for cancer immunoreactive self-antigen or tumour antigen. The Thepitopes and peptide immunogens may be used for prevention and/or treatment of hormone cultRH) for contraception, treatment of hormone contractions of the action of luteinishing hormone called the provided to the action of intentions of a promiscuous treating allergies or arteriosclerosis. Incorporation of a promiscuous treating allergies or arteriosclerosis. Incorporation of a promiscuous contraction of antipolar provided in the growth of animals; or for treatming allergies or arteriosclerosis. Incorporation of a promiscuous trating allergies or arteriosclerosis. Incorporation of a promiscuous contracting allergies or arteriosclerosis and pathogen-derived thelper contracting allergies or arteriosclerosis. Incorporation of a promiscuous contracting allergies of antipoles and pathogen-derived thelper contracting allergies of antipoles captility protecting and pathogen-derived thelper contracting and antipoles and pathogen-derived thelper contraction of antipoles and pathogen-derived the pitope shade on the pathogen. Sequence Any91127 protecting and sequences any91127.

CC any91126 and any9127 and any91284 are antipoles any91197 are antipolic comprising sometostatin and any91201-191207 are antipolic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY91229 standard; peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           or human immune deficiency virus
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RESULT
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                   antibody production; cholesteryl ester transfer; therapy; high density lipoprotein, HDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
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                                                                                                           Example 1;
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                                                                                                           Page 73;
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                                                                                                           99pp; English.
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100.0%;
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The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibodies to lessen the transfer of cholesteryl esters from high density lipporotein (HDL). The method can provide an autogenic immunological process for lessening the transfer of cholesteryl esters from HDL particles and for increasing the

This sequence represents an immunogenic fragment of the cholesteryl ester transferase protein (CETP)

rabbit

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Best Local
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                                                                                                                 This sequence represents an immunogenic fragment of the rabbit cholestery! ester transferase protein (CETP).
The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibodies to lessen the transfer of cholestery! esters from high density lipoprotein (HDL). The method can provide an autogenic immunological process for lessening the transfer of cholestery! esters from HDL particles and for increasing the HBL cholesterol concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinaemias characterised by low HDL/LDL cholesterol ratios. The method can have an effect that lasts for months as compared to the short-term effects and for the small makes on the contains the contains affects that lasts for months as compared to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CETP; cholestery,-ester transfer protein; recombinant DNA vaccine; antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HDL cholesterol concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinaemlas characterised by low HDL/LDL cholesterol ratios. method can have an effect that lasts for months as compared to the
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                                                                                                                                                                                                                                                                                                   Claim 15; Page 94; 99pp; English.
                                                                                                                                                                                                                                                                                                                               New recombinant DNA vaccines
                                                                                                                                                                                                                                                                                                                                                               WPI; 1999-276984/23
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                                                                                                       small molecule drugs now available
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Pred. No.
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              Score 81; DB 20;
Pred. No. 1.4e-05;
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RESULT
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                                                                                                                                                                                                                                                                         New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis or human immune deficiency virus
                                                                                                                                                                                                                                                        Claim 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     cholesteryl ester transport protein; anti-arteriosclerotic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY91231 standard; peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             somatostatin: growth promotion: CD4 receptor; HIV-1; antiviral; PMD foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CETP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hepatitis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Promiscuous T-cell epitope; measles virus F protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human cholesteryl transport protein (CETP) peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22-MAY-2000
                                                                                                                                                                                                                                                                                                                                               (UNBI-) UNITED BIOMEDICAL INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hepatitis B virus surface antigen; HBV; immunogenic; B-cell luteinising hormone releasing hormone; LHRH; contraceptive;
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                                                                                                                                                                                                                                                         Page 62; 129pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B-cell epitope;
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The invention relates to novel promiscuous T helper cell epitopes (Th), CC and immunogenic peptides comprising the Th epitopes of the invention CC along with B cell epitopes. The Th epitopes and peptide immunogens CC containing them, are used to induce a T helper cell response, CC containing them, are used to induce a T helper cell response, CC containing them, are used to induce a T helper cell response, CC containing them, are used to induce a T helper cell response, CC containing them, are used to induce a T helper cell response, CC containing them, are used to induce a T helper cell response, CC containing them, are used to induce a T helper cell response, CC containing them, are used to induce a T helper cell response and CC containing the induce a transformation of interinisting hormone cliffly for inhibition of the action of lutelinising hormone CC containing the promoting the action of interining hormone CC containing the growth of animals; or for containing the growth of animals; or for treating allergies or arteriosclerosis. Incorporation of a promiscuous CC fin (unctional in genetically diverse subjects) into an immunogen conting the growth of animals; or improves capacity to induce a strong T helper cell-mediated immune CC improves capacity to induce a strong T helper cell-mediated immune CC induces. Sequence Avigliar protein and sequences Avigliar-replace of the pitopes. Sequence Avigliar represents a promiscuous T helper pitope CC Aviglia and Aviglia are protein and sequences Avigliar proteins and pathogen, and sequences applicated on the CC antonic Avigliar contents of containing the pitope and the contents of the proteins and sequences applicated on the contents of the contents and promiscuous The pitope contents of contents and promiscuous The pitope and avigliar are proteins and contents approximate the contents and contents an comprising an LHRH sequence joined to a promiscuous Th epitope. is the LHRH target antigenic peptide used in these LHRH antigen peptides. AAY91200 is somatostatin, and AAY91201 Y91207 are anti AAY91144-Y91155 are synthetic epitopes derived from this HBV epitope AAY91156-Y91196, AAY9127 and AAY91242-Y91244 are antigenic peptides antigenic are antigenic AAY91197 the

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RESULT 12
AAY91230
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Matches 15
New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis or human immune deficiency virus -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Promiscuous T-cell epitope; measles virus F protein; MYP; hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; plasmodium falciparum; circumsporozoite; antimalarial; CETP;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  transport protein; anti-arteriosclerotic
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Pred. No. 1.4e-05;
2; Mismatches 0
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В QY

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13-JUN-1996 AAR83561;

(first entry)

AAR83561 RESULT

AAR83561 standard;

peptide;

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fgfpkhllvdflqsls

16 FGFPEHLLVDFLQSLS

31

Query Match Best Local S Matches 15

. Similarity 15; Conser

Conservative

4 B 93

. 6.

Score 79; Pred. No. Mismatches

DB 21; 1.7e-05; 0

Length 16;

0;

Gaps

0

Sequence

16

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cc immunocherapy; for inhibition of the action of lutchising hormone (LHRH) for contraception, treatment of hormone continuous treatment of hormone capacity for inhibition of bar taint in meat, and contracted information of alterials, and hormone capacity to induce a strong Theirorestation of a promiscuous configuration of alterials, and ingreves capacity to induce a strong Theirorestation of a promiscuous capacity to induce a strong Theirorestation of a promiscuous capacity to induce a strong Theirorestation of a promiscuous capacity to induce a strong Theirorestation of a promiscuous capacity to induce a strong Theirorestation of a promiscuous capacity to induce a strong Theirorestation of the perfect cantigen. The can replace carrier proteins and pathogen-derived Theirorestation of the measles virus [MPV] protein and sequences ANY91122-791142.

CC ANY9126 and ANY91245-Y91246 represent synthetic Thepitopes based on the comprising an LHRH sequence Joined to a promiscuous Thepitope. Sequence ANY91127 and ANY91244 are antigenic peptides. ANY91272 and ANY9127 and ANY91244 are antigenic peptides. ANY91200 is somatostatin and a Thepitope. Somatostatin peptides. ANY912190 and the peptides which may be used to promost growth in livestock. ANY91208 is a human of the comprising somatostatin, and ANY91201-Y91207 are antigenic peptides. ANY91213 is a modified version of a human of the pitope. ANY91220 and ANY9121-Y91221 and ANY9121-Y91220 and ANY91220 and ANY91220 and ANY91200 antigenic peptides which may be used in the treatment of allergies. ANY91220 is a peptide derived from foot and mouth disease virus (FMDV) to capside protein and ANY91221-Y91222 comprise this peptide and a Thepitope which may be used to prevent or treat configence and may be used in the treatment of allergies. ANY91220 is a plasmodium falciparum circumsporozoite (CS) target comprise the CS antigen and an MYP Theorem of the peptides and ANY91223-Y9124 are inmunogens comprising a comprising an antigenic peptides and antigenic peptides. ANY9123 and AN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against Plasmodium falciparum, cholesteryl ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer
epitope which may be used as a component in an anti-HIV-1 vaccine. AAY91198 and AAY91199 are respectively an immunostimulatory invasin protein epitope from Yersinia species, and thinge spacer peptide, bot which may optionally be used in the antigenic peptides of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 10; Page 62; 129pp; English
                                                       Of.
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RESULT
AAY82632
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           useful in vaccines for treating allergic reactions. In the immunogens, an IgE C44 peptide is attached C-terminally to a series of amino acidic including a helper T cell epitope. The immunogen may also opt, contain a fatty acid or fatty acid derivative, an invasin domain or alpha-NH2. The immunogen produces high titres of antibodies to the effector site in human IgE heavy chain (the C44 domain peptide) which inhibit mast cell activation and reduce allergen induced IgE prodn. The immunogens may be used in either a radially branching multimeric form or a may be used in either a radially branching multimeric form or a
                                                                                                                                                              antiallergic; antiasthmatic; antiinflammatory; dermatological; immunosuppressive; vaccine; rhinitis; sinusitis; bronchial asthma; atopic dermatis; acute urticaria; chronic urticaria; gastro-intestinal syndrome; food allergen; oro-pharyngeal syndrome
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-OCT-1994;
28-MAR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 5; Page 68-69; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1995-351297/45
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vaccine; allergy; antibody; constant heavy chain.
                                                                      Clostridium
                                                                                             Dermatophagoides
                                                                                                                                            anaphylactic
                                                                                                                                                                                                                                                                T cell epitope;
                                                                                                                                                                                                                                                                                                               Tetanus toxoid T cell epitope and Der pII B cell epitope peptide
                                                                                                                                                                                                                                                                                                                                                              07-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY82632 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linearly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR82592-R82600 and AAR83560-R83581 are peptide immunogens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         treatment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             T cell epitope – useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic peptide-based
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IgE CH4 region contg. peptide immunogen for treating allergies.
WO200006694 - A2
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15; Conser
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                                                                        tetani
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                                                                                                                                              reaction;
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94US-0218461.
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                                                                                                                                                                                                                                                                B cell epitope; allergy; allergen; antigenic;
                                                                                          pteronyssinus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            monomeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                46.9%;
93.8%;
                                                                                                                                         drug hypersensitivity; allergic reaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for eliciting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             immunogen contg. IgE CH4 peptide and helper for eliciting antibody prodn. for allergy
                                                                                                                                                                                                                                                                                                                                                                                                                                                              31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 76; DB
Pred. No. 9.7e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                      food allergen; oro-pharyngeal syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 16;
9.7e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              that are
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treatment of allergy. The compound comprises at least one allergen cc antigenic determinant (1) recognised by a B cell or an antibody secreted to by a B cell of a non-atopic individual and at least one antigenic cc determinant (11) different from the allergen that triggers T cell activation. (1) has antiallergic, antiasthmatic. antiinflammatory.

CC dermatological and immunosuppressive activities, and can be used in a cc vaccine. (1) may be used in a pharmaceutical or cosmetic medicament to creat and/or prevent allergies or a disease of allergic origin, ce specially hypersensitivities. These include rahaitis, sinusitis, ce especially hypersensitivities, rhese include rahaitis, sinusitis, comparing a sastro-intestinal syndromes associated with the ingestion of cc associated with drug hypersensitivities and/or a mixture of these. The cuse of (1) in the treatment of allergic conditions avoids the need for cc arses, however (1) actually combats the cause of an allergic reaction.

CC causes, however (1) actually combats the cause of an allergic reaction.

CC respectations are allergic conditions avoids the need for causes, however (1) actually combats the cause of an allergic reaction.

CC respectations are allergic conditions avoids the need for causes, however (1) actually combats the cause of an allergic reaction.

CC respectations are allergic conditions are allergic reaction.

CC respectations are allergic conditions are allergic reaction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI;
Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 8; Page 35; 50pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     activation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New compound for prevention and treatment of allergies comprises least one allergen antigenic determinant recognized by a B cell a least one antigenic determinant which does not trigger T cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Saint-Remy J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (UNIO ) UCB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  present invention describes a compound (I) for the prevention and/or atment of allergy. The compound comprises at least one allergen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000-422470/36
  3
  AA;
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RESULT 15
AAY53552
                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 15
                                                                                                                                                                                                     AAY53552 standard;
                                                                    Lipopeptide; epitope; cytotoxic T lymphocyte; CTL; lipid; spacer; electrical charge; hydrophilicity; vaccine; immune response; HIV;
                                                                                                                L1popeptide
                                                                                                                                                                         AAY53552
Homo sapiens
               Synthetic
                                          melanoma;
                                                         numan
                                                                                                                                             18-JAN-2000
                                                                                                                                                                                                                                                                          1 qyikanskfigitelg 16
                                                                                                                                                                                                                                                                                                     2 QYIKANSKFIGITEFG
                                                        immunodeficiency virus; hepatitis B virus; papilloma
                                                                                                                                                                                                                                                                                                                                 l Similarity
15; Conserv
                                           malaria;
                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                             (first
                                          parasite.
                                                                                                                                                                                                       Protein;
                                                                                                                                                                                                                                                                                                                                                46.98;
93.88;
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                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                  Score 76; DB 21;
Pred. No. 0.0001;
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                              Length 31
                                                                                                                                                                                                                                                                                                                                     Indels
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Key Modified-site

Location/Qualifiers

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Search completed: June 18, 2002, 08:17:57 Job time: 135 sec
                                                                                                                                                         Query Match 45.1%;
Best Local Similarity 93.8%;
Matches 15; Conservative
                                                                                                                                                                                                                                                                                The invention relates to the generation of a lipopeptide comprising at least one auxiliary T epitope, at least one cytotoxic T lymphocyte (CTL) epitope and at least one lipid residue with (1) the epitopes and lipid portion and (11) the epitopes, being separated independently by peptide spacers. These spacers comprise sequences of amino acids which carry an overall electrical charge in neutral media to ensure that the lipopeptide is hydrophilic. This peptide represents an example of them lipopeptide is hydrophilic. It contains 2 lipid residues attached at the N-terminal end of the molecule and 2 epitopes separated by the spacer residues Ser-Ser and Ala-Ala-Ala. Peptides ANY3331-Y33549 represent peptide epitopes used in the generation of the lipopeptides. These are used in therapeutic or prophylactic compositions and vaccines to induce specific immune responses against human immunodeficiency, hepatitis B or papilloma viruses; p53 of melanoma or the malaria parasite.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New lipopeptide containing lipid regions and two epitopes, all separated by peptide spacers that impart hydrophilicity, useful vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Le Gal FA, Guillet JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (INRM ) INSERM INST NAT SANTE & RECH MEDICALE. (CNRS ) CNRS CENT NAT RECH SCI. (INSP ) INST PASTEUR LILLE.
                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 1; Page 9; 35pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1999-583113/50
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                                                                                  28 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "contains palmitoyl residue attached at the
    N-terminus and on the epsilon carbon of the
    side chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gahery SH, Gras MH,
                                                                                                                                                             0:
                                                                                                                                                           Score 73; DB 20; Length 28; Pred. No. 0.00027; Indels 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Melnyk O,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tartar A;
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                                                                                                                                                           Gaps
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Result
No.
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Database
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM protein - protein search, using sw model
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                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB
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                                                                                                                                                                             Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          seq length: 0
seq length: 31
    162
162
162
162
162
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1: /cgn2_6/ptcodata/2/paa/PCTUS_COMB.pep:*

2: /cgn2_6/ptcodata/2/paa/USO6_COMB.pep:*

3: /cgn2_6/ptcodata/2/paa/USO8_COMB.pep:*

4: /cgn2_6/ptcodata/2/paa/USO82_COMB.pep:*

5: /cgn2_6/ptcodata/2/paa/USO82_COMB.pep:*

6: /cgn2_6/ptcodata/2/paa/USO82_COMB.pep:*

7: /cgn2_6/ptcodata/2/paa/USO83_COMB.pep:*

9: /cgn2_6/ptcodata/2/paa/USO83_COMB.pep:*

10: /cgn2_6/ptcodata/2/paa/USO83_COMB.pep:*

11: /cgn2_6/ptcodata/2/paa/USO83_COMB.pep:*

12: /cgn2_6/ptcodata/2/paa/USO83_COMB.pep:*

13: /cgn2_6/ptcodata/2/paa/USO83_COMB.pep:*

14: /cgn2_6/ptcodata/2/paa/USO83_COMB.pep:*

15: /cgn2_6/ptcodata/2/paa/USO83_COMB.pep:*

16: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

17: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

18: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

19: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

10: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

10: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

10: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

10: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

10: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

11: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

12: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

13: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

14: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

15: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

16: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

17: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

18: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

20: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*

21: /cgn2_6/ptcodata/2/paa/USO93_COMB.pep:*
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Match
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100.0
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Gapop 10.0 , Gapext 0.5
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106.008 Million cell updates/sec
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162
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Copyright (c) 1993 - 2000 Compugen Ltd
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                                                                                                                                                                                                                                                                                                                                                               /cgn2_6/ptodata/2/paa/US100_COMB.pep:*
/cgn2_6/ptodata/2/paa/US101_COMB.pep:*
/cgn2_6/ptodata/2/paa/US60_COMB.pep:*
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  US-08-432-483-2

US-08-432-483A-2

3 US-08-945-289-2

3 US-08-954-643-7

9 US-09-29-762-7

3 US-09-943-334-2

US-09-943-548-2
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             Sequence 2, Appli
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## ALIGNMENTS

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RESULT 1
US-08-432-483-2
US-08-432-483-2
Sequence 2, Application US/08432483
Sequence 2, Application US/08432483
Sequence 2, Application US/08432483
GENERAL IMPORMATION:
RITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER PROTEIN (CETP) ACTIVITY NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Banner & Allegrettl, Ltd.
STREET: Ten South Wacker Drive CITY: Chicago
STREET: Ten South Wacker Drive
CITY: Chicago
STATE: 111inols
COUNTRY: USA
ZIP: 60606-7407
COMPUTER: Eloppy disk
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER READABLE FORM:
COMPUTER: IBM PC COMPATIBLE
OPERATION SYSTEM: PC-DOS/MS-DOS
SOFTWARE: MordPerfect 6.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/432,483
FILING DATE:
CLASSIFICATION UNMBER: 30.237
REFERENCE/DOCKET NUMBER: 95,179(TCS-95179)
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QΥ
                                                                                                     ; NAME/KEY:
; LOCATION:
US-08-432-483A-2
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US-08-432-483-2
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                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,237
REFERENCE/DOCKET NUMBER: 95
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2, Application US/08432483A GENERAL INFORMATION:
APPLICANT: Rittershaus, Charles
                              Matches
                                                         Query Match
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US
FILING DATE: 1-May-195
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: WordPerfect 6.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Rittershaus, Charles W.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) ACTIVITY
                                                                                                                                                  FEATURE:
                                                                                                                                                                ANTI-SENSE;
                                                                                                                                                                               MOLECULE TYPE: peptide HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: Ten Sc
CITY: Chicago
                                             Local Similarity
                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OPERATING SYSTEM:
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1 CQYIKANSKFIGITEFGFPEHLLVDFLQSLS 31
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                              31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RY: USA
60606-7407
                                                                                                                                                                                                                       f: 31 amino acids amino acid
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                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IBM PC compatible
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                      100.0%; Pr
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100.0%; Pred. No. 4e-17;
                                                                                                                                                                                                                                                                                                 30,237
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                                           Score 162; DB 8
Pred. No. 4e-17;
                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                         DB 8;
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                            0;
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                                                      Length 31;
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                            Indels
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                            0
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US-08-954-643-7; Sequence 7, Application US/08954643
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US-08-945-289-2
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                                                                                                                                                                                                                                                                                                                                              Matches 31;
                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2, Application US/08945289 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 'INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION UNMER: 08/432
FILING DATE: May 1,1995
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,23
                                                                                                   APPLICANT: Rittershaus, Charles, W.
APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: XENOGENEIC CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) FOR I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US,
FILING DATE: October 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Rittershaus, Charles, W.
APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) ACTIVITY
NUMBER OF SEQUENCES: 9
                                                                NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ANTI-SENSE:
CITY:
STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OPERATING SYSTEM:
SOFTWARE: Word 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: 130 Bish
CITY: Cambridge
                                 STREET:
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                                                 ADDRESSEE:
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                                                                                                                                                                                                                                                                                            1 CQYIKANSKFIGITEFGFPEHLLVDFLQSLS 31
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              Cambridge
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GY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Massachusetts
 ¥
                                 EE: Yankwich & Associates
130 Bishop Allen Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 130 Bishop Allen Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yankwich & Associates
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           October 17,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  peptide
                                                                                                                                                                                                                                                                                                                                                             100.0%;
                                                                                                   TRANSFER PROTEIN (CETP) FOR MODULATION OF CETP ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRANSFER PROTEIN (CETP) ACTIVITY
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r 17, 1997
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                                                                                                                                                                                                                                                                                                                                                             Score 162; DB 1
Pred. No. 4e-17;
                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                            DB 13;
                                                                                                                                                                                                                                                                                                                                              0;
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ZIP: 02139

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                                                                                                                                                             OTHER INFORMATION: Description of Artificial Sequence: synthetic OTHER INFORMATION: fusion protein containing tetanus toxoid segment; OTHER INFORMATION: linked to human CETP C-terminus US-09-529-762-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-529-762-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; MOLECULE TYPE: US-08-954-643-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                     SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 7, Application US/09529762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Thomas, Lawrence
TITLE OF INVENTION: Xenogeneic Cholesteryl Ester Transfer Protein (CETP TITLE OF INVENTION: Modulation of CETP Activity
FILE REFERENCE: Sequence listing for TCS-420.1 PCT
CURRENT APPLICATION NUMBER: US/09/529,762
CURRENT FILING DATE: 2000-04-18
                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: USSI
PRIOR FILING DATE: 1997-10-20
                                                                                                                                                                                                                                                                                                                        SOFTWARE:
                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                             LENGTH: 31
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: 1. INFORMATION FOR SEQ ID NO: 7: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30, 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
TYPE: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/954,643
FILING DATE: concurrently herewith
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
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                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC
OPERATING SYSTEM:
FILING DATE:
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                                  1 CQYIKANSKFIGITEFGFPEHLLVDFLQSLS 31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CQYIKANSKFIGITEFGFPEHLLVDFLQSLS 31
                                                                                      h 100.0%; Score 162; DB 19; Length 31; Similarity 100.0%; Pred. No. 4e-17;
                                                                                                                                                                                                                                                                                                                      PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rittershaus, Charles
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AVANT Immunotherapeutics, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31 amino acids
                                                                       Conservative
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                                                                       Mismatches
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RESULT

US-08-785-997-10

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; OTHER INFORMATION: vaccine peptide of the invention US-09-943-334-2
                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: 08/945,289
PRIOR FILING DATE: 1997-10-17
NUMBER OF SEO ID NOS: 9
SOFTWARE: Patentin version 3.1
SEO ID NO 2
LENGTH: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/09943548 GENERAL INFORMATION:
                                                                                                Query Match
Best Local Similarity
Matches 31; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Rittershaus, Charles W.
APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: WODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVI
FILLE REFERENCE: TCS-411.1P US-1; TCS-411.1P US-2
CURRENT APPLICATION NUMBER: US/99/943,548
CURRENT FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR APPLICATION NUMBER: PCT/US96/06147
PRIOR PILING DATE: 1995-05-01
PRIOR FILING DATE: 1996-05-01
PRIOR FILING DATE: 1996-05-01
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Best Local :
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SEQ ID NO 2
LENGTH: 31
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TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVI
FILE REFERENCE: TCS-411.1p US-1; TCS-411.1p US-2
CURRENT APPLICATION NUMBER: US/09/943,334
CURRENT FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR FILING DATE: 1995-05-01
PRIOR FILING DATE: 1995-05-07
PRIOR FILING DATE: 1996-05-07
PRIOR RILING DATE: 1996-05-07
PRIOR APPLICATION NUMBER: PCT/US96/06147
PRIOR RILING DATE: 1996-05-01
PRIOR APPLICATION NUMBER: 08/945,289
PRIOR FILING DATE: 1997-10-17
RUMBER OF SED ID NOS: 9
RUMBER OF SED ID NOS: 9
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                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                 ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                             TYPE: PRT
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nes 31; Conserv
1 CQYIKANSKFIGITEFGFPEHLLVDFLQSLS 31
                           1 CQYIKANSKFIGITEFGFPEHLLVDFLQSLS 31
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                                                                                                Conservative
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100.0%; Pred. No. 4e-17;
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Pred. No. 4
                                                                                             Mismatches
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Sequence 10, Application US/08785997 GENERAL INFORMATION:

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                                                                                                                                                                                                                                                                                                                                                                                Sequence 34, Application US/08785997 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/785,997 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-101.0 6018/68346
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                   SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: An Immunological Process for Increasing TITLE OF INVENTION: the HDL Cholesterol Concentration
                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: An Immunological Process for Increasing TITLE OF INVENTION: the HDL Cholesterol Concentration
                                                                                                                                                                                                                                                                                                                                               APPLICANT: Needleman, Philip APPLICANT: Glenn, Kevin
                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 22 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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CITY: Chicago
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                  APPLICATION NUMBER: US/08/785,997
                                                                                                                                                                    COUNTRY:
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FILING DATE:
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120 South Riverside Plaza, 22nd Floor
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(307) TD NO: 10:
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Pred. No.
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RESULT 10
US-08-788-882-10
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                                                               ; MOLECULE TYPE: US-08-788-882-10
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Best Local Similarity
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Best Local Similarity
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                               TELEPHONE: (312)655-1500
TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 10
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                CLASSIFICATION:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Gamson, Edward P.
NAME: Gamson, Edward P.
NAME: Tool NUMBER: 29,381
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REFERENCE/DOCKET NUMBER: MON-101.0 6018/68346
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Glenn, Kevin
APPLICANT: Krul, Elaine
APPLICANT: Gamson, Edward P.
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: MC
TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Gamson Ph.D., Edward P. REGISTRATION NUMBER: 29,381
                                                                                                                 LENGTH: 22 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Chicago
STATE: IL
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                                                                                                      TOPOLOGY:
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120 South Riverside Plaza, 22nd Floor
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(312) NO: 34:
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52.5%;
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    Mismatches

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Pred. No. 1.9e-05;
Score 85; DB 11;
Pred. No. 1.9e-05;
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                Length 22;
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US-08-934-367-10
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Best Local
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APPLICANT: Needleman, FILLLY
APPLICANT: Glenn, Kevin
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: For Increasing the HDL Cholesterol Conce
TITLE OF INVENTION: Vaccination
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTONNEY/AGENT INFORMATION:
NAME: Gamson, Edward P.
REGISTRATION UNMEER: 29,381
REFERENCE/DOCKET NUMBER: MOI
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
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APPLICANT:
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ADDRESSEE: Welsh & K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
NUMBER OF SEQUENCES: 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                          15 EFGFPEHLLVDFLQSLS 31
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CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX:
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                                                                                                                                                                                                                                                                                                                                                                       similarity 94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/08788882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120 South Riverside Plaza, 22nd Floor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (312)655-1501
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                                                                                                                                                                                                                                                                                                                                                         Conservative
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Krul, Elaine
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                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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US-08-934-367-34
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Best Local Similarity
                                       ATTORNEY/AGENT INFORMATION:

NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381

REFERENCE/DOCKET NUMBER: MON-10

TELECOMMUNICATION INFORMATION:

TELEPHONE: (312)555-1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Needleman, Philip
APPLICANT: Glenn, Kevin
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration by
TITLE OF INVENTION: Vaccination
NUMBER OF SEQUENCES: 52
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
COMPUTER: IBM PC com
                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 514
ATTORREY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edward P.
REGISTEATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-103.0 6221/69666
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE:
TELEPHONE: (312)655-1501
TELEFAX: (312)655-1501
                                                                                                                                                                                                                                                                                                                                      STATE: IL
COUNTRY: USA
ZIP: 60606
                                                                                                                                                                                                                                                                                                                                                                         STREET: 120 SO
CITY: Ch1cago
STATE: IL
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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STRANDEDNESS: sir
TOPOLOGY: linear
                                                                                                                                                             CLASSIFICATION: 514
                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15 EFGFPEHLLVDFLQSLS 31
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120 South Riverside Plaza,
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; Pred. No. 1.9e
1; Mismatches
                                                                                MON-103.0 6221/69666
                                                                                                                                                                                                                                                                                                                                                                                                            22nd Floor
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DNA

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; MOLECULE TYPE: US-08-934-367-34
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                     RESULT 15
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Best Local Similarity 94.1
Conservative
Sequence 34, Application US/09386591
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
ATTORREY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-103.0 6221/69666
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1501
TELEPHAX: (312)655-1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Needleman, Pl
APPLICANT: Glenn, Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration by DNA
                                                                                                                                                                                                                                                                                   TYPE: a
                                                                                                 15 EFGFPEHLLVDFLQSLS 31
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TOPOLOGY: li
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                                                                                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER:
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                                                                                DEGEPEHLLVDFLQSLS
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                                                                                                                                                           52.5%;
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                                                                                                                                         Score 85; Db 1/, Pred. No. 1.9e-05;
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                                                                                                                                                                        DB 17; Length 22;
                                                                                                                                              Indels
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Best Local Similarity
Watches 16; Conserve
Search completed: June 18, Job time: 219 sec
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                                                                                                                                                                                                                             ; MOLECULE TYPE: US-09-386-591-34
                                                                                                                                                                                                                                                                                                                                              TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 34:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: MO
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Needleman, Philip APPLICANT: Glenn, Kevin TITLE OF INVENTION: An Immunc TITLE OF INVENTION: for Incre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: L. Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                TYPE: amino acid
STRANDEDNESS: si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/09/386,591 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                                                        LENGTH:
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                                                                              6 DFGFPEHLLVDFLQSLS
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120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IBM PC compatible SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                               linear
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                                                                                                                                                                                                                                                                          single
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                                                                                                                                                              52.5%;
94.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          An Immunological Process and Constructs for Increasing the HDL Cholesterol Concentration by DNA
                2002, 08:20:26
                                                                                                                                                                                                                                                                                                                                                                                                            MON-103.0 6221/69666
                                                                                                                                                             Score 85; DB 17; Length 22; Pred. No. 1.9e-05;
                                                                                                                                              Mismatches
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Run

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Minimum
Maximum
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Maximum Match
Listing first
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Perfect score:
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         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed.
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Match
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192.857 Million cell updates/sec
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Gapop 10.0 , Gapext 0.
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US-09-707-738-5
US-09-707-74-5
US-09-707-74-5
US-09-942-052-710
US-09-942-052-710
US-09-131-186A-14
US-09-413-186A-14
US-09-413-186A-14
US-09-413-186A-16
US-10-128-711-111
US-10-128-711-111
US-10-128-711-111
US-10-128-711-112
US-09-453-834-133
US-09-453-834-133
US-09-453-834-133
US-10-199-574A-133
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US-10-147-993-133
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Sequence 7, Appli
Sequence 5, Appli
Sequence 38, Appli
Sequence 38, Appli
Sequence 710, Appli
Sequence 170, Appli
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Sequence 171, Appli
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Sequence 7, A
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US-09-242-772-120	0S-10-105-299-4564	US-10-105-232-72	US-10-004-860-1163	US-09-636-596C-27	US-09-656-417-2	US-10-105-299-4415	US-10-043-487-403	US-09-069-827A-136	US-09-050-359B-136	US-10-145-415-68	us-09-936-035-14	US-09-575-580B-32	US-09-945-166A-3	US-09-652-169-13	US-09-862-179A-20	US-10-014-340-19	US-09-956-206A-32	US-09-924-841-15	
Sequence 120, App	Sequence 4564, Ap	Sequence 72, Appl	Sequence 1163, Ap	Sequence 27, Appl	Sequence 2, Appl1	Sequence 4415, Ap	Sequence 403, App		Sequence 136, App	Sequence 68, Appl	Sequence 14, Appl	Sequence 32, Appl	Sequence 3, Appli	Sequence 13, Appl	Sequence 20, Appl	Sequence 19, Appl	Sequence 32, Appl	Sequence 15, Appl	

### ALIGNMENTS

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RESULT 1
US-10-128-711-110
US-10-128-711-110
US-10-128-711-110
US-10-128-711
US-10-128
                                                                                                   TELEFAX: (206) 623-67
INFORMATION FOR SEQ ID NO: 110:
                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 07/935,811
FILING DATE: 26-AUG-1992
APPLICATION NUMBER: US 07/874,491
FILING DATE: 27-APR-1992
APPLICATION NUMBER: US 07/827,682
FILING DATE: 29-JAN-1992
APPLICATION NUMBER: US 07/749,568
FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: Parmelee, Steven W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
operating SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/128,711
FILING DATE: 22-Apr-2002
CLASSIFICATION: CURNOWN-
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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                                                       SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 467-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                  REGISTRATION NUMBER: 31,990
REFERENCE/DOCKET NUMBER: 14137-26-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/197,484 FILING DATE: 16-FEB-1994
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LENGTH: 24 amino acids
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CTL IMMUNITY
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CELIS, Esteban
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TYPE: amino acid

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RESULT 4
US-09-707-738-5
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; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; SEQUENCE DESCRIPTION: SEQ ID NO: 110: US-10-128-711-110
                                                                                                                                                                                                                          ; ORGANISM: Human US-10-076-674A-7
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US-10-076-674-7
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Best Local Similarity
Matches 16; Conservat
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Best Local Similarity
Matches 16; Conserva
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SEQ ID NO 7
LENGTH: 27
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Best Local Similarity
Matches 19; Conserv
                                                                                                                                                                                                                                                                     SEQ ID NO 7
LENGTH: 27
                                                                                                                                                                                                                                                                                                APPLICANT: Sokoli, Kenneth K.
TITLE OF INVERVION: Stabilized Synthetic Immunogen Delivery System
FILE REFERENCE: Immunogen Delivery System
CURRENT APPLICATION NUMBER: US/10/076,674A
CURRENT FILING DATE: 2002-04-23
NUMBER OF SEQ ID NOS: 11
NUMBER OF SEQ ID NOS: 11
SOFTWARE: Patentin version 3.1
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TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System
FILE REFERENCE: Immunogen Delivery System
CURRENT APPLICATION NUMBER: US/10/076,674
CURRENT FILING DATE: 2002-04-23
NUMBER OF SEQ ID NOS: 11
NUMBER OF SEQ ID NOS: 11
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                                                                                  QYIKANSKFIGITEL --- EH 19
                                                                                                                                              Conservative
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Pred. No. 1.8e-05;
1; Mismatches 4;
                                                                                                                                              Score 71.5; DB 6;
Pred. No. 0.00024;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 71.5; DB 6;
Pred No. 0.00024;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6;
                                                                                                                                                                       Length 27;
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; OTHER INFORMATION:
; OTHER INFORMATION:
US-09-543-608A-38
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                                                                                                                                                                                                                                                     SEQ ID NO 38
LENGTH: 14
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Chesnut, Robert
APPLICANT: Epimmune Inc.
TITLE OF INVENTION: HLA Class I A2 Tumor Associated Antigen
TITLE OF INVENTION: Peptides and Vaccine Compositions
FILE REFERENCE: 0.16623-015710US
CURRENT APPLICATION NUMBER: US/09/543,608A
CURRENT ELING DATE: 2002-04-05
                                                                                                                                                                                                                                                                                                                                    CURRENT FILING DATE: 2002-04-05
NUMBER OF SEQ ID NOS: 52
SOFTWARE: FastSEQ for Windows Version 3.0
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APPLICANT: Sette, Alessa
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PRIOR FILING DATE: 1995-66-07
PRIOR APPLICATION NUMBER: US 60/010,510
PRIOR FILING DATE: 1996-01-24
PRIOR APPLICATION NUMBER: US 08/788,822
PRIOR FILING DATE: 1997-01-23
PRIOR PILING DATE: 1997-01-23
PRIOR APPLICATION NUMBER: US 09/310,462
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PRIOR APPLICATION NUMBER: US 08/305,871
PRIOR FILING DATE: 1994-09-14
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CURRENT FILING DATE: 2002-04-15
PRIOR APPLICATION NUMBER: US 08/121,101
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NUMBER OF SEQ ID NOS: 25
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                                                                                                                                 FEATURE:
                                                                                                                                                             ORGANISM: Artificial Sequence
                                                                                                                                                                                                                     TYPE: PRT
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Celis, Esteban
Keogh, Elissa A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sette, Alessandro
Sidney, John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sidney, John
Alexander, Jeffery L.
Epimmune Inc.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Grey, Howard M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                         tetanus toxoid positions 830-843, Standard Peptide 553.01
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APPLICANY: Alexander, Jeffery L.
APPLICANY: Alexander, Jeffery L.
APPLICANY: Epimoune Inc.
TITLE OF INVENTION: Alteration of Immune Response Using Pan DR-Binding
TITLE OF INVENTION: Peptides
FILE REFERENCE: 018623-00624005
CURRENT APPLICATION NUMBER: US/09/709,774
CURRENT FILING DATE: 2000-11-08
PRIOR APPLICATION NUMBER: US 08/121,101
PRIOR APPLICATION NUMBER: US 08/305,871
PRIOR APPLICATION NUMBER: US 08/305,871
PRIOR APPLICATION NUMBER: US 08/305,871
PRIOR FILING DATE: 1994-09-14
PRIOR APPLICATION NUMBER: US 60/010,510
PRIOR FILING DATE: 1996-01-24
PRIOR APPLICATION NUMBER: US 08/788,822
PRIOR FILING DATE: 1997-01-23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-709-774-5
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                                                                                                                                                                                                                                                                                                                            Sequence 710, Application US/09942052 GENERAL INFORMATION:
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SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local
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           APPLICANT: Raitano, Arthur B.
APPLICANT: Faris, Mary
APPLICANT: Hubert, Rene S.
APPLICANT: Hubert, Rene S.
APPLICANT: Afar, Daniel
APPLICANT: Ge, Wangmao
APPLICANT: Challita-Eid, Pia M.
TITLE OF INVENTION: NUCLEIC ACID AND CORRESPONDING PROTEIN ENTITLED 85P1B3
TITLE OF INVENTION: USEFUL IN TREATMENT AND DETECTION OF CANCER
FILE REPERENCE: 51158-20028 00
CURRENT APPLICATION NUMBER: US/09/942,052
CURRENT FILING DATE: 2001-08-28
PRIOR APPLICATION NUMBER: 60/228,432
PRIOR FILING DATE: 2000-08-28
NUMBER OF SED ID NOS: 744
COPTMARE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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Best Local (
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APPLICANT: Gaeta, Federico
APPLICANT: Grey, Howard M.
APPLICANT: Sidney, John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 14
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 QYIKANSKFIGITE 15
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. Similarity 100.0%; F
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PatentIn Ver.
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100.0%;
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Pred. No.
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Pred. No.
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APPLICANT: Epinmune Inc.

APPLICANT: Sette, Alessandro

APPLICANT: Chesnut, Robert

APPLICANT: Sidney, John

TITLE OF INVENTION: PEPTIDES WITH INCREASED BINDING AFF

TITLE OF INVENTION: FOR HIA A3 SUPERTYPE MOLECULES

FILE REFERENCE: 39963-20028.00

CURRENT APPLICATION NUMBER: US/09/260,714B

CURRENT FILING DATE: 1999-03-01

CURRENT FILING DATE: 1999-03-01

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 1

LENGTH: 14

TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                     US-10-128-711-95
; Sequence 95, Applicati
; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Tetanus toxoid US-09-260-714B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-260-714B-1
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Best Local Similarity
Matches 14; Conserv
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LENGTH: 14
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ZIP: 94105-1493
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                    NUMBER OF SEQUENCES: 153
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                         TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR ELICITING CTL IMMUNITY
                                                                                                                                                                                                                                                           APPLICANT: VITIELLO, Maria A.
CHESTNUT, Robert W.
SETTE, Alessandro D.
CELIS, Esteban
GRAY, Howard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14; Conservative
                                                                                                                                                ADDRESSEE: Townsend and Townsend Khourie and Crew STREET: Steuart Street Tower, One Market Plaza
                                                                                          COUNTRY: US
                                                                                                              STATE: California
                                                                                                                                CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                       Application US/10128711
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Pred. No.
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SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:

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APPLICANT: FARIS, MARY
APPLICANT: CHALLITA-EID, PIA
TITLE OF INVENTION: NUCLEIC ACID AND CORRESPONDING PROTEIN ENTITLED
TITLE OF INVENTION: 10193A11 USEFUL IN TREATMENT AND DETECTION OF CANCER
FILE REFERENCE: 51158-20024.20
CURRENT APPLICATION NUMBER: US/10/001,469
CURRENT FILLING DATE: 2002-05-20
PRIOR APPLICATION NUMBER: 60/157,902
PRIOR APPLICATION NUMBER: 60/291,118
PRIOR FILING DATE: 2001-05-15
PRIOR APPLICATION NUMBER: 60/291,118
PRIOR FILING DATE: 2001-05-15
PRIOR FILING DATE: 2001-05-15
PRIOR APPLICATION NUMBER: 60/580,728
PRIOR FILING DATE: 2000-10-05
PRIOR FILING DATE: 2000-10-05
PRIOR FILING DATE: 2000-10-05
PRIOR FILING DATE: 2008-2888
SOPTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: /note= "Tetanus toxoid 830-843" SEQUENCE DESCRIPTION: SEQ ID NO: 95: US-10-128-711-95
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Best Local
SEQ ID NO 1403
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: 14137-26-4
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 467-9600
TELEFAX: (206) 623-6793
INFORMATION FOR SEQ ID NO: 95:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 QYIKANSKFIGITE 15
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1 QYIKANSKFIGITE 14
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FILING DATE: 29-JAN-1992
APPLICATION NUMBER: US 07/749,568
FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
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FILING DATE: 16-FEB-1994
APPLICATION NUMBER: US 07/935,811
FILING DATE: 26-AUG-1992
APPLICATION NUMBER: US 07/874,491
FILING DATE: 27-APR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/10/128,711 FILING DATE: 22-Apr-2002 CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS: unknown TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                        RAITANO, ARTHUR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Parmelee, Steven W. REGISTRATION NUMBER: 31,990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 14 amino acids
                                                                                                                                                                                                                                                                                                                                  SAFFRAN, DOUGLAS
HUBERT, RENE
FARIS, MARY
                                                                                                                                                                                                                                                                                                                                                                                                   AFAR, DANIEL
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Pred. No.
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; LENGTH: 15
; TYPE: PRT
; ORGANIZM: Clostridium tetani
US-09-413-186A-11
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                                                     ; LENGTH: 17
; TYPE: PRT
; ORGANISM: Clostridium tetani
PCT-US02-10293-3
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                                                                                                                                                              Sequence 3, Application PC/TUS0210293

GENERAL INFORMATION:
APPLICANT: Wang, Chang Yi
APPLICANT: Wang, Chang Yi
TITLE OF INVENTION: Immunogenic peptide composition as vaccines for the
TITLE OF INVENTION: prevention and treatment of Alzheimer's Disease
FILE REFERENCE: 1151-4167
CURRENT APPLICATION NUMBER: PCT/US02/10293
CURRENT FILING DATE: 2007-04-02
NUMBER OF SEQ ID NOS: 76
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APPLICANT: Steinaa, Lucilla
                                                                                                                            SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 3
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APPLICANT:
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Best Local Similarity
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TITLE OF INVENTION: NOVEL METHODS FOR THERAPEUTIC VACCINATION
FILE REFERENCE: 3631-0115P
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Birk, Peter
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100.0%; Pred. No.
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 43.28;
 Score 70;
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Length 17;
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GENERAL INFORMATION:
APPLICANT: Steinman, Lucilla
APPLICANT: Mouritsen, Soren
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APPLICANT: Karisson, Gunilla
TITLE OF INVENTION: NOVEL METHODS FOR THERAPEUTIC VACCINATION
FILE REFERENCE: 3631-0115P
CURRENT APPLICATION NUMBER: US/09/413,186A
CURRENT FILING DATE: 1999-10-05
PRIOR APPLICATION NUMBER: 60/105,011
PRIOR APPLICATION NUMBER: 60/105,011
PRIOR FILING DATE: 1998-10-20
PRIOR APPLICATION NUMBER: PA 1998 01261
PRIOR PILING DATE: 1998-10-05
NUMBER: OF SED ID NOS: 36
COUNTRIESE OF SED ID NOS: 36
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SOFTWARE: PatentIn version 3.1 SEQ ID NO 15
                              APPLICANT: Nielseh, Klauss
APPLICANT: KARISSON, GUNILLA
APPLICANT: KARISSON, GUNILLA
TITLE OF INVENTION: NOVEL METHODS FOR THERAPEUTIC VACCINATION
FILE REFERENCE: 3631-0115P
CURRENT APPLICATION NUMBER: US/09/413,186A
CURRENT FILING DATE: 1999-10-05
PRIOR APPLICATION NUMBER: 60/105,011
PRIOR PRIOR PRIOR DATE: 1998-10-20
PRIOR APPLICATION NUMBER: PA 1998 01261
PRIOR FILING DATE: 1998-10-05
UNMBER OF SEQ ID NOS: 36
COUNTRIES PRIOR SECONDATE: 198-10-05
UNMBER OF SEQ ID NOS: 36
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APPLICANT: Haaning, Jesper
APPLICANT: Dalum, Iben
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TYPE: PRI
ORGANISM: Artificial Sequence
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Local Similarity 100.0%;
hes 14; Conservative (
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Dalum, Iben
Birk, Peter
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Pred. No.
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Search completed: June 18, 2002, 08:20:46 Job time: 204 sec

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APPLICANT: Nielseh, Klauss
APPLICANT: Karlsson, Gunilla
TITLE OF INUMINION NOVEL METHODS FOR THERAPEUTIC VACCINATION
FILE REFERENCE: 3631-0115P
CURRENT APPLICATION NUMBER: US/09/413,186A
CURRENT PILING DATE: 1999-10-05
PRIOR APPLICATION NUMBER: 60/105,011
PRIOR APPLICATION NUMBER: 9A 1998 01261
PRIOR APPLICATION NUMBER: PA 1998 01261
PRIOR FILING DATE: 1998-10-05
NUMBER OF SEQ ID NOS: 36
SOFTWARE: PATENTIA DATE: 1998-10-05
NUMBER OF SEQ ID NOS: 36
SOFTWARE: PATENTIA DATE: 1998-10-05
LENGTH: 25
TYPE: PRT
ORGANISM: Artificial Sequence
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; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Fusion of
US-09-413-186A-15
                                                                                                                                           , OTHER INFORMATION: Fusion of tetanus toxold epitope and PSM US-09-413-186A-16 \,
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Best Local Similarity 100.0%;
Matches 14; Conservative
                                                                  Matches
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Best Local Similarity
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APPLICANT:
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APPLICANT: Mouritsen, Sore
APPLICANT: Gautam, Anand
APPLICANT: Haaning, Jesper
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                                2 QYIKANSKFIGITE 15
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Birk, Peter
Leach, Dana
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                                                                  Conservative
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                                                                                Score 70; DB 5;
; Pred. No. 0.00037
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Pred. No.
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Perfect score:
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           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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1: /cgn2_6/pcodatts/2,

2: /cgn2_6/pcodatts/2,

3: /cgn2_6/pcodatts/2,

4: /cgn2_6/pcodatts/2,

5: /cgn2_6/pcodata/2,

6: /cgn2_6/pcodata/2,
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           June 18, 2002, 08:16:02; Search time 12.95 Seconds (without alignments) 58.471 Million cell updates/sec
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Copyright (c) 1993 - 2000 Com
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/cgn2_6/ptodata/2/1aa/5B_COMB.pep:*
/cgn2_6/ptodata/2/1aa/6A_COMB.pep:*
/cgn2_6/ptodata/2/1aa/6B_COMB.pep:*
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PCT-US95-07218-110
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US-08-446-692-13
US-08-468-351A-13
US-08-365-167A-18
US-08-305-871A-5
US-08-305-871A-5
US-08-465-167A-18
US-08-4817-933A-9
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US-09-188-082-6
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Sequence 25, Applisequence 31, Applisequence 13, Applisequence 13, Applisequence 14, Applisequence 15, Applisequence 16, Applisequence 17, Applisequence 27, Applisequence 27, Applisequence 28, Applisequence 29, Applisequence 27, Applisequence 28, Applisequence 29, Applisequence 29, Applisequence 29, Applisequence 21, Applisequence 24, Applisequence 24, Applisequence 27, Applisequence 27, Applisequence 28, Applisequence 29, Applisequence 29, Applisequence 21, Applisequence 21, Applisequence 23, Applisequence 23, Applisequence 26, Applisequence 26, Applisequence 27, Applisequence 26, Applisequence 26, Applisequence 27, Applisequence 26, Applisequence 27, Applisequence 27,
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45	44	43	42	41	40	39	38	37	36	35	34	<u>3</u> 3	32	31	30	29	28
36	36	60	64	65	65	65	66	66	70	70	70	70	70	70	70	70	70
22.2	22.2	37.0	39.5	40.1	40.1	40.1	40.7	40.7	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2
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US-08-311-307B-8	US-08-671-094B-7	PCT-US94-10257A-26	US-08-787-547-41	US-09-188-082-9	US-08-661-052-9	US-08-787-547-42	US-09-315-304B-510	US-09-082-279B-510	PCT-US93-11703-63	PCT-US92-07218-29	US-09-534-639-14	US-09-534-639-13	US-09-075-257A-14	US-09-075-257A-13	PCT-US95-02121-112	PCT-US95-02121-111	PCT-US92-07218-28
Sequence 8, Appli	Sequence 7, Appli	Sequence 26, Appl	Sequence 41, Appl	Sequence 9, Appli	Sequence 9, Appli	Sequence 42, Appl	Sequence 510, App	Sequence 510, App	Sequence 63, Appl	•	Sequence 14, Appl	Sequence 13, Appl	Sequence 14, Appl	Sequence 13, Appl	Sequence 112, App	Sequence 111, App	Sequence 28, Appl

#### ALIGNMENTS

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Sequence 25, Application PC/TUS9207218

Sequence 25, Application PC/TUS9207218

GENERAL INFORMATION:

APPLICANT: Vitiello, Maria A.

APPLICANT: Chesnut, Robert W.

TITLE OF INVENTION: EPITOPES

ADDRESSE: TOWNSEND AND TOWNSEND

ADDRESSE: TOWNSEND AND TOWNSEND

STATE: California

COUNTRY: USAn Francisco

STATE: California

COUNTRY: USAn Francisco

STATE: California

COUNTRY: USAN

COMPUTER READNBLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER READNBLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US 07/749,568

FILING DATE: 19320826

CLASSIFICATION UNMEER: US 07/749,568

FILING DATE: 29-JAN-1992

APPLICATION NUMBER: US 07/827,682

FILING DATE: 29-JAN-1992

APPLICATION NUMBER: US 07/874,491

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/874,491

PRIOR APPLICATION NUMBER: US 07/874,491
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                                            RESULT 3
PCT-US92-07218-32
                                                                                                                                                                                                                                              PCT-US95-02121-110
Sequence 32, Application PC/TUS9207218 GENZRAL INFORMATION: APPLICANT: Vitiello, Maria A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 110, Applica GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                 Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 16-FEB-1994
PRIOR APPLICATION DAYA:
APPLICATION UNMBER: US 07/
FILING DATE: 26-AUG-1992
PRIOR APPLICATION DAYA:
APPLICATION UNMBER: US 07/
FILING DATE: 27-APR-1992
                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (415) 543-5043
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0:
FILING DATE: 29-JAN-1992
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 0 FILING DATE: 26-AUG-1991 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/02121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION:
                                                                                                                                                                                                                                                               MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (206) 467-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                REGISTRATION NUMBER: 31,990
REFERENCE/DOCKET NUMBER: 14137-26-4PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: FILING DATE: 16-FE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                         STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 08/197,484
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                                                                                                                                                                                                                                                                                                                        LENGTH:
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19; Conserv
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                                                                                                                                                                                                                                                                              unknown
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                                                                                                                                                                                                                                                            peptide
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                                                                                                                                                                                                                                                                                            unknown
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                                                                                                                                                                   Score 78.5; DB 5;
Pred. No. 2.2e-06;
1; Mismatches 4
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Pred. No. 2
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US-08-446-692-13
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; MOLECULE TYPE:
PCT-US92-07218-32
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                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                        GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US 07/
PILLING DATE: 29-JAN-1992
PRIOR APPLICATION NUMBER: US 07/
ETILING DATE: 27-APR-1992
ATTORNEY_AGENT INFORMATION:
NAME: Smith, William M.
                                                                                         APPLICANT: Ladd, Anna
APPLICANT: Wang, Chang Yi
APPLICANT: Wang, Chang Yi
APPLICANT: Zamb, Timothy
TITLE OF INVENTION: Immunogenic LHRH peptide constructs
TITLE OF INVENTION: and synthetic universal immune stimulators for vaccines
NUMBER OF SEQUENCES: 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 14
TELECOMMUNICATION INFORMATION
TELEPHONE: 415-326-2400
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CURRENT APPLICATION DATA:
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TITLE OF INVENTION: HLA-RESTR
TITLE OF INVENTION: EPITOPES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 26-AUG-1991 PRIOR APPLICATION DATA:
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MEDIUM TYPE: Floppy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: POFILING DATE: 19920826 CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: AMINO ACID
STRANDEDNESS: Si
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: San Francisco
COUNTRY: US
ZIP: 10154-0053
                                                                   STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Townsend and Townsend
                                   STATE:
                                                     CITY: New York
                                                                                     ADDRESSEE: Maria C.H. Lin
                                                                                                                                                                                                                                                                                                                                                                       4 QYIKANSKFIGITEF----LPSDFFPSV 27
                                                                                                                                                                                                                                                                                                                                                                                                         2 QYIKANSKFIGITEFGFPEHLLVDFLQSL 30
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                                                                         345
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IBM PC compatible

SYSTEM: PC-DOS/MS-DOS

Patentin Release #1.0, Version #1.25
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                                                                       Park Avenue
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14137-26-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: MATIA C.H. Lin
REGISTRATION NUMBER: 29,323
REFERENCE/ODCKET NUMBER: 1151
TELECOMOUNICATION INFORMATION:
TELEPHONE: (212)415-8745
TELEPHONE: (316)751-6849
INFORMATION FOR SEO ID NO: 13:
SEQUENCE CHARACTERISTICS:
LENGTH: 27 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 13, Application Patent No. 5843446
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                      ZIP: 10154-0053
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FBH PC PC-DOS/MS-DOS
COFFWARD: Date-fit Pc-DOS/MS-DOS
COFFWARD: Date-fit Pc-DOS/MS-DOS
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APPLICATION NUMBER: US
FILING DATE: 7-JUN-199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS: Maria C.H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/488,351A
FILING DATE: 7-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Ladd, Anna APPLICANT: Wang, Chang Yi APPLICANT: Zamb, Timothy
                                                                                      CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/229,275
FILING DATE: 14-APR-1994
                                                                                                                                                                                                                CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Immunogenic LHRH peptide constructs
TITLE OF INVENTION: and synthetic universal immune stimulators for vaccines
                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/057,166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: New York
STATE: NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                            APPLICATION NUMBER: US (FILING DATE: 7-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      / Match 44.1%;
Local Similarity 80.0%;
les 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                               CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
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CLASSIFICATION:
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                    27-APR-1992
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                                                                                                                                                                                                US 08/446,692
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Pred. No. 3.7e-05;
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GENERAL INFORMATION:
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Best Local Similarity 80.0%;
Matches 16; Conservative
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: TBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOSTWARE: Patentin Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/186, 266
FILING DATE: 25-JAN-1994
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
ADDITATION MINESE: 15 08/160 320
                                    APPLICATION NUMBER: US 08/027,746
FILING DATE: 05-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/926,666
FILING DATE: 07-AUG-1992
ATTORNEY_AGENT INFORMATION:
NAME: Bastian, Kevin L.
REFERENCE_DOCKET NUMBER: 34,774
REFERENCE_TOKNET NUMBER: 14137-50-4
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (516)751-6849 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: GREY, Howard M.
APPLICANT: SETTE, Alessandro
APPLICANT: CELIS, Esteban
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NAME: MARIA C.H. LIN
REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 11:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: INDUCTION OF ANTI-TUMOR CYTOTOXIC TITLE OF INVENTION: TLYMPHOCYTES IN HUMANS USING TITLE OF INVENTION: SYNTHETIC PEPTIDE EPITOPES NUMBER OF SEQUENCES: 20
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 27 amino acids
                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 08/159,339
FILING DATE: 29-NOV-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/103,396
FILING DATE: 06-AUG-1993
PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Townsend and Townsend Khourie and Crew
STREET: Steuart Street Tower, One Market Plaza
CITY: San Francisco
STRTE: California
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ZIP: 94105-1493
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: (415) 543-9600
(415) 543-5043
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Pred. No. 3.
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                                                ; TOPOLOGY: 11; MOLECULE TYPE: US-08-305-871A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 5, Application US/08305871A Patent No. 5736142
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Query Match
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SEQUENCE CHARACTERISTICS:
                                                                                                                                                                   TELEFAX: (415) 576-03-
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Sette, Alessandro
APPLICANT: Gaeta, Federico
APPLICANT: Grey, Howard M.
APPLICANT: Sidney, John
APPLICANT: Alexander, Jeffrey L.
TITLE OF INVENTION: Alteration of Immune Response Using Pan
TITLE OF INVENTION: DR-Binding Peptides
NUMBER OF SEQUENCES: 29
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/121,101
FILING DATE: 14-SEP-1993
                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-DOS SOTTWARE: PATENTIA RELEASE #1.00 CURRENT APPLICATION DATA:
                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 14 amino acids
                                                                                                                                                                                                    TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                              FILING DATE: 14-SEP-1994
CLASSIFICATION: 424
RIOR APPLICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: /note= "Tetanus toxin at positions OTHER INFORMATION: 830-843."
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nes 14; Conserv
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                                                                                                                                                                                                                                      NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34.
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: USA
ZIP: 94111-3834
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                                                                                                  STRANDEDNESS
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ilarity 100.0%;
Conservative
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                                                                                     linear
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 43.2%;
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; Pred. No.
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     Score 70;
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   Length 14;
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                                                                                                                US-08-817-933A-9
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                                                                                                                                   RESULT
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                                                       Sequence 9, Application US/08817933A Patent No. 5945104 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                    Matches
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Fikes, John D.
APPLICANT: Livingston, Brian D.
APPLICANT: Sette, Alessandro D.
APPLICANT: Sidney, John C.
TITLE OF INVENTION: DIA ENCODING MAGE-1 C-TERMINAL
TITLE OF INVENTION: IMMUNOGENIC PEPTIDES (as amended)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 05-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/103,623
FILING DATE: 06-AUG-1993
ATTORNEY/AGERT INFORMATION:
NAME: DESCRIPTION STATES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN REBEASE #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/465,167A
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 31,990
REFERENCE/DOCKET NUMBER: 14
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: 11
APPLICANT: STANWORTH, DENIS R. APPLICANT: LEWIN, IAN V. TITLE OF INVENTION: PEPTIDES F
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CITY: San Francisco
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1 QYIKANSKFIGITE 14
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                                                                                                                                                                                                                                                                                                                                                                                                      linear
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    PEPTIDES FOR ANTI-ALLERGY TREATMENT
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hes 0;
                                                                                                                                                                                                                                                                                                         Length 14;
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GENERAL INFORMATION:
APPLICANT: Vitiello, Maria A.
APPLICANT: Chesnut, Robert W.
TITLE OF INVENTION: HLA-RESTRICTED
TITLE OF INVENTION: EPITOPES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/817,933A FILING DATE: 27-UN-1997 CLASSIFICATION: 424 PRIOR APPLICATION DATA: APPLICATION NUMBER: GB 9422294.0 FILING DATE: 04-NOV-1994 ATTORNEY/AGENT INFORMATION: REGISTRATION NUMBER: 29,009 REGISTRATION NUMBER: 129,009 TELEEPHONE: (703) 816-4005 TELEEPHONE: (703) 816-4000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEX: N/A
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS
                               COMPUTER READABLE FORM:
MEDIIM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US92/07218
FILING DATE: 19920826
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC COMPATIBLE
COMPUTER: FC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0
CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 35
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend
STREET: One Market Plaza, Stewart Street Tower
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 1
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 1100 No CITY: Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 QYIKANSKFIGITE 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QYIKANSKFIGITE 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14;
                                                                                                                                                                               94105
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                                                                                                                                                                                                                California
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14 amino acids
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                                                                                                                                                                                              USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.08;
                                                                                                                                                                                                                                                                                                                                  ROBERT W.
HLA-RESTRICTED HEPATITIS B VIRUS CTL
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; Pred. No.
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ETILING DATE: 27-APR-1992
ATTORNEY/AGENT LIFOORMATION:
NAME: Smith, William M.
REGISTRATION NUMBER: 30,223
REFERENCE/DOCKET NUMBER: 14137-26-3
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-326-2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 415-543-5043
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US92/07218
FILING DATE: 1992826
FILING DATE: 1992826
APPLICATION NUMBER: US 07/874,491
FILING DATE: 27-APR-1992
ATTORNEY/AGENT INFORMATION:
NAME: Smith, William M.
REGISTRATION NUMBER: 30,223
REFERENCE/DOCKET NUMBER: 14137-26-3
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                   APPLICATION NUMBER: US 07/749,568
FILING DATE: 26-AUG-1991
PRIOR APPLICATION DATA:
                                                                                                                             APPLICATION NUMBER: US 07/827,682
FILING DATE: 29-JAN-1992
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                           CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: San Francisco
STATE: California
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29-JAN-1992
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PCT-US95-02121-95
PCT-US95-02121-95
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Best Local Similarity 100.08;
Matches 14; Conservation
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                    TELEFAX: (415) 543-5043
INFORMATION FOR SEQ ID NO:
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TITLE OF INVENTION:
NUMBER OF SEQUENCES:
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APPLICATION NUMBER: 1
FILING DATE: 26-AUG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 16-FEB-1994
                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 14137-26-4PC TELECOMMUNICATION INFORMATION: TELEPHONE: (206) 467-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/935,811
FILING DATE: 26-AUG-1992
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                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
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                                                                   FEATURE:
                                                                                 MOLECULE TYPE:
                                                                                                                                                                   SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: AMINO ACID
STRANDEDNESS: Sir
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: PCT/
FILING DATE: 16-FEB-1995
                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US 07/827,682
FILING DATE: 29-JAN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
              NAME/KEY: Peptide LOCATION: 1.14 OTHER INFORMATION:
                                                                                                                                                                                                                                                                  NAME: Parmelee, Steven W. REGISTRATION NUMBER: 31,5
                                                                                                    TOPOLOGY:
                                                                                                                  STRANDEDNESS:
                                                                                                                                                 LENGTH:
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                                                                                                                                 : 14 amino acids amino acid
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415-543-5043
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                                                                                                  unknown
                                                                              peptide
                                                                                                                                                                                                                                                                                                                        26-AUG-1991
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27-APR-1992
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                                                                                                                  unknown
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                /note- "Tetanus toxoid 830-843"
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                                                                                                                                                                                                                                                                    31,990
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
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                                                                                                                           US-08-661-052-6
                                                                                                                                          RESULT
                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 295-6759
TELEFAX: (301) 295-1022
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 15 amino acids
TYPE: arion acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No.
                                                                         Sequence 6, Application US/08661052 Patent No. 5837243
GENERAL INFORMATION:
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Best Local 9
                                                                                                                                                                                                                                                      Matches
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APPLICANT: Hoffma
             APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/319,704
EILING DATE: 07-0CT-1994
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: A. David Spevack
REGISTRATION NUMBER: 24,743
DEDEDEDENG TOROGENER: 1917-777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
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APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: Protective 17 kDa Malaria Hepatic and TITLE OF INVENTION: Erythrocytic Stage Immunogen and Gene
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT: Chezian Somasundaram
TITLE OF INVENTION: THERAPEUTIC COMPOUNDS COMPRISED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: Bldg 1
CITY: Bethesda
                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER:
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                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
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TRY: U.S.A
20889-5606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application US/08319704
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Bldg 1, T-12, 8901 Wisconsin Avenue
                                                                                                                                                                                                                                               43.2%;
milarity 100.0%;
Conservative 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Charoenvit, Yupin
Hedstrom, Richard C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hottman,
                             Joel Goldstein
Robert Graziano
                                                             Yashwant M. Deo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IBM PC compatible
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Sequence 7, Application US/08460502

Patent No. 5843464

GENERAL INFORMATION:
APPLICANT: Bakaletz, Lauren O.
APPLICANT: Kaumaya, Parvin T.
TITLE OF INVENTION: Synthetic Chimeric Fimbrin Peptiden
NUMBER OF SEQUENCES: 11

CORRESPONDENCE ADDRESS:
ADDRESSEE: Calfee, Halter and Griswold
STREET: 800 Superior Avenue
CITY: Cleveland
STATE: Ohio
COUNTRY: U.S.A.
ZIP: 44114-2688
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; MOLECULE TYPE: peptide
; FRAGMENT TYPE: internal
US-08-661-052-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-460-502-7
COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,502
FILING DATE:
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Goltick, Mary E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC COMPALIBLE

COMPUTER: IBM PC COMPALIBLE

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTMARE: PACHOLIN Release #1.0, Version #1.25

SOFTMARE: PACHOLIN RELEASE #1.0, Version #1.25

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/661,052

FILING DATE:
PRIOR APPLICATION NUMBER: US 08/484,172

FILING DATE: 07-JUNE-1995

APPLICATION NUMBER: US 08/484,172

FILING DATE: 07-JUNE-1995

ATTORNEY/AGENT INFORMATION:
NAME: ATHOLA, Beth E.

REGISTRATION NUMBER: 35,430

REFERENCE/DOCKET NUMBER: 35,430

REFERENCE/DOCKET NUMBER: 35,430

REGISTRATION INFORMATION:
TELEPHONE: (617)227-7400

TELEPHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 14;
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INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 15 antho acids
TYPE: antho acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: OF ANTI-FC RECEPTOR ANTIBODIES
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, Suite 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 100.0%; Score 70; DB 2; I Local Similarity 100.0%; Pred. No. 3.2e-05; hes 14; Conservative 0; Mismarches ^
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STATE: Massa
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В
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                                                                                                                                        , MOLECULE TYPE: peptide US-08-460-502-7
                                                              Matches 14; Conservative
                                                                               Query Match
Best Local :
                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 34,829
REFERENCE/DOCKET NUMBER: 22727/00120
TELECOMMUNICATION INFORMATION:
TELEPHONE: (216) 622-8458
TELEPAX: (216) 241-0816
INFORMATION FOR SEQ ID NO: 7:
                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 15 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                       y Match 43.2%;
Local Similarity 100.0%;
1 OYIKANSKFIGITE 14
                                2 QYIKANSKFIGITE 15
                                                              0;
                                                                               Score 70; DB 2; L; pred. No. 3.2e-05;
                                                              Mismatches
                                                              0; Indels
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Search completed: June 18, 2002, 08:18:16 Job time: 134 sec

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Title:
Perfect score:
Sequence:
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Maximum DB
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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
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Match
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A53176

A53176

C; Becies: Macaca fascicularis (crab-eating macaque cholesteryl ester transfer protein - crab-eating macaque)
C; Becies: Macaca fascicularis (crab-eating macaque)
C; Date: 12-May-1994 *sequence_revision 12-May-1994 *text_change 07-May-1999
C; Accession: A53176
R; Bape, M.E.; Rehberg, E.F.; Marotti, K.R.; Melchior, G.W.
Arterioscler: Thromb. 11, 1759-1771, 1991
A; Title: Molecular cloning, sequence, and expression of cynomolgus monkey choles asma high density lipoprotein levels.
A; Reference number: A53176; MUID:92031355
A; Recession: A53176
A; Status: preliminary
A; Molecule type: mRNA
A; Residues: 1-493 < PAP>
A: Cross-references: GB:M86343
A: Cross-references: GB:M86343
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                    Query Match
Best Local S
Matches 26
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                                        Similarity
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T354367
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AB01069
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F900340
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                                          Score 26; DB 2;
Pred. No. 5.5e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALIGNMENTS
                          Mismatches
                                                                                                                                                                                                                                              expression of cynomolgus monkey cholesteryl
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                            Indels
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                          0:
                          Gaps
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cholesteryl ester transfer protein - rabbit (fragment) C;Species: Oryctolagus cuniculus (domestic rabbit) C;Date: 14-Feb-1997 #sequence_revision 14-Feb-1997 #te; C;Accession: 146692 R;Nagashima, M.; McLean, J.W.; Lawn, R.M. J. Lipid Res. 29, 1643-1649, 1988
                                                                                                                                  RESULT
146692
                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: mRNA
A;Residues: 1-289 <JIA>
A;Cross·references: GB:M63992; NID:g191342; PIDN:AAA37066.1; PID:g191343
A;Note: the authors translated the codon CTG for residue 68 as Gly, GGG
as Ser, and TTC for residue 267 as Ser
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A:Gene: GDB:CETP
A:Cross-references: GDB:119773; OMIM:118470
A:Map position: 16q13-16q13
F;1-17/Domain: signal sequence #status predicted <SIG>
F;1-8-493/Product: cholesteryl ester transfer protein #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Jiang, X.C.; Moulin, P.; Quinet, E.; Goldberg, I.J.; Yacoub, L.K.; J. Biol. Chem. 266, 4631-4639, 1991
A;Title: Mammalian adipose tissue and muscle are major sources of lip A;Reference number: A38700; MUID:91154277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cholesteryl ester transfer protein - golden hamster (fragment) C;Species: Mesocricetus auratus (golden hamster) C;Date: 28-Feb-192 #sequence_revision 10-Apr-1992 #text_chang C;Accession: A38700
           A; fritle:
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A;Title: Cloning and sequencing of human cholesteryl ester A;Reference number: A26941; MUID:87258172
A;Accession: A26941
                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: mRNA
A; Residues: 1-493 < DRA>
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C:Date: 19-Nov-1988 #sequence_revision
C:Accession: A26941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 2
A26941
cholesteryl ester transfer protein precursor - human
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Best Local
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Best Local
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     Cloning and mRNA tissue distribution
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Pred. No.
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3.6e-18;
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of rabbit cholesteryl ester transfer
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5.5e-19;
                                                                          #text_change
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                                                                          05-Nov-1999
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R:Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; Wh Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, ansen, N.F.; Hughes, B.; Huizar, L. Nature 408, 815-820, 2000

A:Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khay, C.A.; Li, J.H.; Li, Y.; Liu, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Malt Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

A:Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.

A:Title: Sequence and analysis of Chromosome 1 of the plant Arabidopsis.
                                                                                                                      C; Genetics:
A; Map position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Appothetical protein F14L17.18 - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 31-Dec-2001 C;Accession: F86278
                                                                                                                                                                                         A; Molecule type: DNA
A; Residues: 1-263 <S
                                                                                                                                                                                                                                                A;Reference number: A86141;
A;Accession: F86278
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A; Cross-references: GB:M27486;
C; Genetics:
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A;Accession: 146692
A;Status: preliminary; translated from GB,
A;Molecule type: mRNA
A;Residues: 1-497 <NAGS
                                                                                                                                                                A; Cross-references:
                                                                                                                                                                                                                           A; Status: preliminary
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                                                      Query Match
Best Local
                                   Matches
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Best Local Similarity
Matches 11; Conserv
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2 DGFLLLQ 8
                               Similarity 7; Conserv
                                   Conservative
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                                                    26.9%;
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                                                                                                                                                              NID:g7262683; PIDN:AAF43941.1; GSPDB:GN00141
                                 0;
                                                  Score 7;
Pred. No.
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Pred.
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                                 Mismatches
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Maiti, R.;
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Nucleic Acids Res. 28, 4317-4331, 2000
A:Title: Complete genome sequence of the alkaliphilic bacterium
A:Reference number: A83850; MUID:20512582; PMID:11058132
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  A;Gene: BH2924
C;Superfamily:
                                                                                   A;Cross-references: GB:AP001517; GB:BA0000004; NID:g10175500; PIDN:BAB06643.1; A;Experimental source: strain C-125
                                                              C; Genetics:
                                                                                                                                         A; Molecule type: DNA
A; Residues: 1-280 <STO>
                                                                                                                                                                                            A; Status: preliminary
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  maltose
transport protein
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  malG
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R:Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, C Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; ansen, N.F.; Hughes, B.; Hulzar, L.

Nature 408, 816-620, 2000

A.Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E. C.A.; Li, J.H.; Li, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

A.Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.

A.Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.

A.Fattle: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A.; Reference number: A86141; MUID:21016719

A.; Accession: F86314

A.; Status: preliminary

A.; Molecular tree.
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R:DelVecchio, V.G.; Kapatral, V.; Redkar, R.J.; Patra, G.; Mujer, C.; Los, T.; Ivanova, R:DelVecchio, V.G.; Kapatral, V.; Redkar, R.J.; Patra, G.; Mujer, C.; Los, T.; Ivanova, R:DelVecchio, M.; Goltsman, E.; Selkov, E.; Elzer, P.H.; Hagius, S.; O'Callaghan, D.; Letess Proc. Natl. Acad. Sci. U.S.A. 99, 443-448, 2002

A:Title: The genome sequence of the facultative intracellular pathogen Brucella melitens A:Reference number: AD3252; PMID:11756688

A:Accession: AH3635
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C;Species: Brucella melitensis
C;Date: 01-Feb-2002 #sequence_revision 01-Feb-2002 #text_change 01-Feb-2002
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Query Match
Best Local Similarity
Watches 7; Conserve
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A; Map position:
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C;Genetics:
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A; Residues: 1-405 <5
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A; Residues: 1-378 < KUR>
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Matches 7
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ilarity 100.0%;
Conservative
                  Conservative
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                                                                                                                                                                                         GB:AE005172; NID:g9665071; PIDN:AAF97275.1; GSPDB:GN00141
                                       26.98;
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100.0%; Pred. No.
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; Pred. No. 11;
0; Mismatches
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                                       Score 7; I
; Pred. No.
                  0
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                  Mismatches
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                                       DB 2;
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                                                            Length 405
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                  Indels
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                0
                                                                                                                                                                                                                                                                                                                                                                                                    Khaykin, E.; Kim,
Maiti, R.; Marzia
                  Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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                                                                                                                                                                                                                                                                                                                                                              Tallon
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E82422
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                C; Superfamily: Arabidopsis thaliana hypothetical protein At2g41620
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R;Heidelberg, J.F.; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.; Gwinn, M.L.; Dodson, R. chardson, D.; Ermolæva, M.D.; Vanathevan, J.; Bass, S.; Qin, H.; Dragol, I.; Sellers l, R.R.; Mekalanos, J.J.; Venter, J.C.; Fraser, C.M.
Nature 406, 477-483, 2000
A;Title: DNA Sequence of both chromosomes of the cholera pathogen Vibrio cholerae.
A;Reference number: A82035; MUID:20406833
A;Accession: E82422
A;Map position: 2
A;Introns: 43/3; 74/2; 96/3; 116/3; 146/3; 234/3; 266/3; 311/3; 329/3; 368/3; 669/3;
A;Note: T32G6.14
                                                                                                                                                                                                                                                                                                                                                   A:Experimental source: cultivar Columbia
R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y
M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon,
euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter
Nature 402, 761-768, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Accession: T00818; A84844
R;Rounsley, S.D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, submitted to the EMBL Data Library, November 1997
submitted to the EMBL Data Library chromosome II BAC T32G6 genores.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hypothetical protein At2941620 [imported] - Arabidopsis thaliana N;Alternate names: hypothetical protein T3266.14 C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 23-Mar-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Map position: 2
C;Superfamily: glycerol-3-phosphate dehydrogenase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: DNA
A;Residues: 1-547 <HEI>
A;Cross-references: GB:AE004403; GB:AE003853; NID:g9658159; PIDN:AAF96645.1; GSPDB:GN
A;Experimental source: serogroup Ol; strain N16961; biotype El Tor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                anaerobic glycerol-3-phosphate dehydrogenase, chain A VCA0747 [imported] - Vibrio
C;Species: Vibrio cholerae
C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Feb-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-825 <ROU>
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A; Accession: T00818
                                                                                                                                                                                                                                                                                                A; Title: Sequence and analysis of chromosome A; Reference number: A84420; MUID: 20083487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Description: Arabidopsis thaliana chromosome II BAC T32G6 genomic sequence
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                                                                                                                      C; Genetics:
                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 1-825 <STO>
                                                                                                                                                                                                                                                            A; Accession: A84844
                                                                                                                                                                                                                                                                                            A; Reference number: A84420;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: EMBL:AC002510; NID:g2618683; PID:g2618698
                                                                                         A;Gene: At2g41620; T32G6.14
                                                                                                                                                A;Cross-references: GB:AE002093; NID:g2618698;
                                                                                                                                                                                                                                   A; Status: preliminary
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Best Local S
Matches 7
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100.0%; Pred. No.
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15;
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                                                                                                                                                   PIDN: AAB84345.1; GSPDB: GN00139
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A:Reference number: JS0322; MUID:88180013
A:Accession: JS0322
A:Molecule type: genomic RNA
A:Residues: 1-12,'V',14-71,'V',73-185,'LTL',189-199,'D',201-350,'F',352-556,'D',558-749.
A:Cross-references: GB:M21844; NID:g323187; PIDN:AAA42844.1; PID:g323188
                                                                                                                A; Map position: segment 2
C; Superfamily: bluetongue virus VP2 protein
C; Keywords: capsid protein
                                                                                                                                                                                                                                                                              A;Residues: 1-961 <YAM>
R;Gould, A.R.
Virus Res. 9, 145-158, 1988
A;Title: Conserved and non-conserved regions
                                                                                                                                                                                                                                                                                                                                                                                                                                             P2XRAU
outer capsid protein VP2 - bluetongue virus (serot)
C;Species: bluetongue virus
C;Date: 30-Jun-1991 #sequence_revision 30-Jun-1991
C;Accession: 803654; J80322
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R;Wall, M.
5
                                                                                                                                                                A;Cross-references: GB:M21844;
C;Genetics:
                                                                                                                                                                                                                                                                                                                                A:Accession: S03654
A:Molecule type: genomic RNA
A:Residues: 1-961 <YAM>
                                                                                                                                                                                                                                                                                                                                                                                              R:Yamaguchi, S.; Fukusho, A.; Roy, P. Nucleic Acids Res. 16, 2725, 1988
A:Title: Complete seguence of VP2 gen
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A;Introns: 33/3; 63/1; 139/3; 185/1; 382/3; 424/2;
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A; Molecule type: DNA
A; Residues: 1-903 <WIL>
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Best Local
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Best Local
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 12
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                                                Similarity
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                          26.9%; Score 7; DB 1; ilarity 100.0%; Pred. No. 25; Conservative 0; Mismatches
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100.0%; PI
0;
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100.0%;
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Pred. No.
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probable serine proteinase espp, extracellular - N;Alternate names: putative exoprotein-precursor C;Species: Escherichia coll
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C;Superfamily: bluetongue virus VP2 protein
C;Keywords: capsid protein; glycoprotein; membrane protein
F;303,432/Binding site: carbohydrate (Asn) (covalent) #status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: bluetongue virus
C;Date: 31-Dec-1993 **sequence_revision 31-
C;Accession: A60017
R;Gould, A.R.; Pritchard, L.I.
Virus Res. 17, 31-52, 1990
A;Title: Relationships amongst bluetongue
A;Reference number: A60017; MUID:91021485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Map position: segment 2
(;Superfamily: bluetongue virus VP2 protein
C;Reywords: capsid protein; glycoprotein; transmembrane protein
F;666-682/Domain: transmembrane *status predicted <TMN>
F;303,432/Binding site: carbohydrate (Asn) (covalent) *status predicted
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A; Residues: 1-961 <GOU>
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A; Accession: A60014
A; Molecule type: mRNA
A; Residues: 1-961 <WAl>
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A;Title: Expression of the outer capsid protein, VP2, from a full length cDNA clone o a comparison of the nucleic acid sequence of this segment with those of other serotyp A;Reference number: A60014; MUID:90261331
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A; Residues: 322-346; 492-503 <WA2>
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R;Wade-Evans, A.M.; Mertens, P.P.C
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Best Local
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100.0%; Pr
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25;
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                                       Escherichia coli plasmid po157
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S; Silnagawa, H. 1998

DNA Res. 5, 1-9, 1998

A; Title: Complete nucleotide sequences of 93-kb and 3.3-kb plasmids of an enterohemorrha A; Reference number: 214127; MUID:98290540

A; Reference number: 214127; MUID:98290540

A; Reference number: 214127; MUID:98290540

A; Recession: 700317

A; Status: prellminary; translated from GB/EMBL/DDBJ

A; Molecule type: DNA

A; Residues: 1-1300 <MAK>
A; Cross-references: EMBL:AB011549; NID:94589740; PIDN:BAA31836.1; PID:93337077

A; Experimental source: strain EHEC 0157:H7, substrain RIMD 0509952

R; Burland, V: Shao, Y: Perna, NT: Plunkett, G: Sofia, H.J.; Blattner, F.R.

Nucleic actids Res. 26, 4196-4204, 1998

A; Title: The complete DNA sequence and analysis of the large: virulence plasmid of Escher A; Status: preliminary; translated from GB/EMBL/DDBJ

A; Residues: 1-1300 <BUR>
A; Residues: 1-1300 <BUR>
A; Residues: 1-1300 <BUR>
A; Experimental source: strain EDL933; serotype 0157:H7
C; Genetics:
A; Gene: espP
A; Genome: plasmid p0157
C; Superfamily: IgA-specific metalloendopeptidase
C; Keywords: serine proteinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hypothetical protein ECs2430 [imported] - Escherichia coli (strain O157:H7, substrai C; Species: Escherichia coli [c] pate: 18-Jul-2001 sequence_revision 18-Jul-2001 #text_change 18-Jul-2001 C; Date: 18-Jul-2001 sequence_revision | R; Havashi, T.; Mathino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H. DNA Res. 8, 11-22, 2001

NAR Res. 8, 11-22, 2001

A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and A; Reference number: A99629; MUID:21156231; PMID:11258796
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                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: GB:BA000007; PIDN:BAB35853.1; PID:g13361897; GSPDB:GN00154
A;Experimental source: strain O157:H7, substrain RIMD 0509952
C;Genetics:
A;Gene: EC82430
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  D64931
hypothetical protein b1724 -
C; Species: Escherichia coli
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Best Local
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nes 7; Conser
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hes 6; Conserv
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milarity 100.0%;
Conservative 0
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                            Escherichia coli
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%; Pred. No. 33;
0; Mismatches
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A.Experimental source: strain PAOI

R.Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.

adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.;

Lory, S.; Olson, M.V.

Nature 406, 939-964, 2000

A.Title: Complete genome sequence of Pseudomonas aeruginosa PAOI, an opportunistic A.Reference number:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Date: 12-Sep-1997 #sequence_revision 17-Sep-1997 #text_change 08-Oct-1999 C;Accession: D64931  
R;Blattner, F:R:; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.; A; Rose, D.J.; Mau, B.; Shao, Y.  
Science 277, 1453-1462, 1997  
A;Title: The complete genome sequence of Escherichia coli K-12. A;Reference number: A64720; MUID:97426617  
A;Accession: D64931  
A;Status: nucleic acid sequence not shown; translation not shown a Molecule true: nux
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Best Local Similarity
Watches 6; Conserve
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A;Molecule type: DNA
A;Moslecule type: DNA
A;Residues; 1-115 <STO>
A;Cross-references: GB:AE004499; GB:AE004091; NID:g9946508; PIDN:AAG04023.1; GSPDB:GN
A;Experimental source: strain PAO1
A;Experimental source: strain PAO1
conserved hypothetical protein aq_1797 - Aquifex aeolicus C;Species: Aquifex aeolicus C;Species: Aquifex aeolicus C;Date: 08-May-1998 #sequence_revision 08-May-1998 #text_change 05-Nov-1999 C;Date: 08-May-1998 #sequence_revision 08-May-1998 #text_change 05-Nov-1999 C;Accession: H70454 R;Deckert, G.; Warren, P.V.; Gaasterland, T.; Young, W.G.; Lenox, A.L.; Gral
                                                                                                                              RESULT
H70454
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A; Residues: 1-96 <BLAT>
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A;Cross-references: GB:AE000267; GB:U00096; NID:g1788011; PIDN:AAC74794.1; PID:g17880 A;Experimental source: strain K-12, substrain MG1655

Length 96; Indels 0 Gaps

0

hypothetical protein PRF29 [imported] - Pseudomonas aeruginosa

R;Nakayama, K.; Takashima, K.; Ishihara, H.; Shinomiya, T.; Kageyama, M.; Kanaya, submitted to the EMBL Data Library, August 1999
A;Description: Genetic relationship between bacteriocins and bacteriophages.

Hickey, M.J.; Larbig, K.; L

Pseudomonas aeruginosa hypothetical protein PRF29

Length 115 Indels 0 Gaps

0

T.; Young, W.G.; Lenox, A.L.; Graham, D.E.;

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A;Title: The complete genome of the hyperthermophilic bacterium Aquifex aeolicus. A;Reference number: A70300; MUID:98196666
A;Accession: H70454
A;Status: preliminary; nucleic acid sequence not shown; translation not shown A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-130 <AQF>
A;Cross-references: GB:AE000756; NID:g2984076; PIDN:AAC07630.1; PID:g2984091; GB:A;Experimental source: strain VF5
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Nature 392, 353-358, 1998
A;Title: The complete gen
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A;Title: Complete genome sequence of Treponema pallidum, the syphilis spirochete. A;Reference number: A71250; MUID:98332770
A;Accession: E71298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hypothetical protein TP0638 - syphilis spirochete
C;Species: Treponema pallidum subsp. pallidum (syphilis spirochete)
C;Date: 24-Jul-1998 #sequence_revision 24-Jul-1998 #text_change 05-Nov-1999
C;Date: 24-Jul-1998 #sequence_revision 24-Jul-1998 #text_change 05-Nov-1999
C;Accession: E71298
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Status: preliminary; nucleic acid sequence not shown; translation not shown A;Molecule type: DNA A;Residues: 1-144 <COL>A;Cross-references: GB:AE001239; GB:AE000520; NID:g3322937; PIDN:AAC65625.l; A;Experimental source: strain Nichols C;Genetics:
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                                                                                                                             R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.; M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L. euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J. mature 402, 761-768, 1999

Nature 402, 761-768, 1999

A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.

A;Reference number: A84420; MUID:20083487

A;Accession: E84861
                                                                                                                                                                                                                                                                                                                        RESULT 21

E84861
hypothetical protein At2g43060 [imported] - Arabidopsis thaliana
hypothetical protein At2g43060 [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001
C;Accession: E84861
C;Accession: E84861
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A;Cross references: GB:AE002093; C;Genetics:
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C; Superfamily:
                                                     A; Molecule type: DNA
A; Residues: 1-156 <STO>
                                                                                                           A; Status: preliminary
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Best Local S
Matches 6
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     71 LLVDFL 76
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6; Conser
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ilarity 100.0%;
Conservative
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ilarity 100.0%;
Conservative
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                             NID: g4531440; PIDN: AAD22125.1;
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                                GSPDB:GN00139
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McDc
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A;Title: Nucleotide sequence and predicted functions of the entire Sinorhizobium mell A;Reference number: A95262; MUID:21396509; PMID:11481432
A;Accession: A95366
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A;Cross-references: GB:AE006469; PIDN:AAK65491.1; PID:g14523963; GSPDB:GN00165
A;Experimental source: strain 1021, megaplasmid pSymA
R;Galibert, F.; Finan, T.M.; Long, S.R.; Puhler, A.; Abola, P.; Ampe, F.; Barle
pela, D.; Chain, P.; Cowie, A.; Davis, R.W.; Dreano, S.; Federspiel, N.A.; Fisi
L; Hyman, R.W.; Jones, T.
Science 293, 668-672, 2001

Abola, P.; Ampe, F.; Barloy-Hubl S.; Federspiel, N.A.; Fisher, R.

Lelau ; Yeh,

A; Molecule type: DNA A; Residues: 1-167 < KUR> A;Status: preliminary

A;Authors: Kahn, D.; Kahn, M.L.; Kalman, S.; Keating, D.H.; Kiss, E.; Komp, Chebault, P.; Vandenbol, M.; Vorholter, F.J.; Weidner, S.; Wells, D.H.; Wong, A;Title: The composite genome of the legume symbiont Sinorhizobium meliloti. A;Reference number: A96039; MUID:21368234; PMID:11474104

A; Contents: annotation C; Genetics:

NADH dehydrogenase (ublquinone) (EC 1.6.5.3) chain B NuoB2 - C;Species: Sinorhizobium meliloti C;Date: 24-Aug-2001 #sequence\_revision 24-Aug-2001 #text\_chan C;Accession: A95366

#text\_change 30-Sep-2001

Sinorhizobium meliloti (

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C;Accession: 690437
R;She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Ch Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder arrett, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J. submitted to GenBank, April 2001
                                                                                                                                                                                                                                                                                                                                                                                                             hypothetical protein cutC-2 [imported] - Sulfolobus C;Species: Sulfolobus solfataricus C;Date: 24-May-2001 #sequence_revision 24-May-2001 C;Accession: G90437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
G90437
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Best Local Similarity
"-+-hes 6; Conservi
                                                                                                                                           C;Superfamily: isoquinoline 1-oxidoreductase alpha chain; ferredoxin [2Fe-2S] homolog C;Keywords: 2Fe-2S; metalloprotein F;48,53,56,68/Binding site: 2Fe-2S cluster (Cys) (covalent) *status predicted
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                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-163 <KUR>
                                                                                                                                                                                                                                                                                              A; Reference number: A99139
A; Accession: G90437
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                                                                                                                                                                                                                                                                                                                             A; Description: Sulfolobus solfataricus complete genome
                                                                             Query Match
Best Local
                                                               Matches
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30 LLVDFL 35
                                17 LLVDFL 22
                                                                                 Local Similarity
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                                                                   Conservative
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                                                                                 23.1%;
                                                                 Score 6; DB:
;; Pred. No. 53
0; Mismatches
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). 51;
                                                                                   DB 2;
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                                                                                                 Length 163
                                                                    Indels
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                                                                    Gaps
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Interferon alpha-M1 precursor - human
C:Species: Homo gapiens (man)
C:Date: 02-Jul-1996 ##equence_revision 02-Jul-1996 ##text_change 16-Jul-1999
C:Date: 02-Jul-1996 ##equence_revision 02-Jul-1996 ##text_change 16-Jul-1999
C:Accession: 152347
R;Linnane, A.W.; Beilharz, M.W.; McMullen, G.L.; Macreadie, "..G.; Murphy, M.; Nisbet, I. Biochem. Int. 8, 725-732, 1994
A:Title: Nucleotide sequence and expression in E. coll of a human interferon-alpha gene A:Reference number: 152347; MUID:84307815
A:Accession: 152347
A:Status: preliminary; translated from GB/EMBL/DDBJ
A:Molecule type: mRNA
A:Residues: 1-89 - RESSARIA A. MISSARIA A. MESSARIA A. 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Interferon alpha-I-4b precursor - human

N.Alternate names: HulFN-alpha-I-4b; type I interferon

C.Species: Home sapiens (man)

C.Date: 28 Dec-1987 #sequence_revision 28-Dec-1987 #text_change 18-Jun-1999

C.Accession: E23753

R.Henco, K.; Brosius, J.; Fujisawa, A.; Fujisawa, J.I.; Haynes, J.R.; Hochstadt,

J. Mol. Biol. 185, 227-260, 1985

A.Title: Structural relationship of human interferon alpha genes and pseudogenes.

A.Reference number: A92916; MUID:86037205

A.Residues: 1-89 (HEN)

A.Residues: 1-89 (HEN)

A.Residues: 1-89 (HEN)
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Best Local Similarity
Watches 6; Conserve
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C;Genetics:
A;Gene: GDB:IFN1@
A;Cross-references: GDB:119328; OMIM:147660
A;Map position: 9p22-9p22
C;Superfamily: interferon alpha
C;Keywords: antiviral
F;1-23/Domain: signal sequence *status predicted <SIG>F;1-23/Domain: signal sequence *status predicted <MAT>F;24-139/Product: interferon alpha-I-4b *status predicted <MAT>F;24-122,52-162/Disulfide bonds: *status predicted
                                                                                                                                                                                        A;Cross-references: GB:M27318; NID:g184617; PIDN:AAA52726.1; PID:g306909 C;Genetics: A;Gene: IENA C;Superfamily: interferon alpha
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A;Genome: plasmid
A;Genofamily: psbG protein
C;Keywords: oxidoreductase;
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    Local Similarity hes 6; Conserv
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    23.1%; Score 6; ilarity 100.0%; Pred. No. Conservative 0; Mismatc
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DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001

A.Title: Complete Genome Sequence of Caulobacter crescentus.

A.Reference number: A87249; MUID:21173698; PMID:11759647

A.Status. Training Englands.
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transcription regulator, Tetk family [imported] - Caulobacter crescentus
C;Species: Caulobacter crescentus
C;Species: Caulobacter crescentus
C;Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 20-Apr-2001
C;Accession: F87455
R;Mierman, M.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Elsen, J.; Heidelberg, R;Mierman, M.C.; Feldblyum, T.V.; Paulsen, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Ko
B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Ko
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hypothetical protein - Synechocystis sp. (strain PCC 6803)
C;Species: Synechocystis sp.
A;Variety: PCC 680;
A;Variety: PCC 680;
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 16-Jun-2000
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 16-Jun-2000
C;Accession: S76652
R;Kaneko, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Miy
O, K.; Okumura, S.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada,
DNA Res. 3, 109-136, 1996
                                                                                                  RESULT
S70734
adenylate kinase (BC 2.7.4.3) - Yersinia enterocolitica
NyAlfernate names: ATP-AMP transphosphorylase
CySpecies: Yersinia enterocolitica
CyDate: 15-Feb-1997 #sequence_revision 13-Mar-1997 #tex
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A;Note: the nucleotide sequence was submitted to the EMBL Data Library, June 1996
C;Superfamily: Bacillus subtilis conserved hypothetical protein ydgE
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A;Accession: S76652
A;Status: preliminary
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A; Residues: 1-204 <KAN>
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A; Residues: 1-210 <STO>
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Yamada, M.; Ya
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13-Mar-1997 #text\_change 18-Jun-1999

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C;Genetics:
A;Gene: adk
C;Function:
DNA repair protein Rad51 homolog - Methanobacterium thermoautotrophicum (strain Delta C;Species: Methanobacterium thermoautotrophicum C;Date: 10-Sep-1999 *sequence_revision 10-Sep-1999 *text_change 10-Sep-1999 C;Date: 10-Sep-1999 *Sequence_revision 10-Sep-1999 *Caccession: D69093 C;Accession: D69093 R;Smith, D.R.; Doucette-Stamm, L.A.; Deloughéry, C.; Lee, H.; Dubois, J.; Aldredge, T.; Oiu, D.; Spadafora, R.; Vicaire, R.; Wang, Y.; Wierzhowski, J.; Gibson, R.; Jiwani,
                                                                                                                     D69093
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AG0378
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A;Molecule type: DNA
A;Residues: 1-214 <SNU>
A;Residues: 1-214 <SNU>
A;Cross-references: EMBL:Z47767; NID:g633689; PIDN:CAA87696.1; PID:g633690
A;Cross-references: EMBL:Z47767; NID:g633689; PIDN:CAA87696.1; PID:g633690
A;Experimental source: strain 6471/76 serotype 0:3
A;Experimental source: strain 6471/76 serotype 0:3
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, Ja:
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C;Keywords: phosphotransferase
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A; Residues: 1-214 <KUR>
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A;Accession: S70734
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R:Skurnik, M.; Venho, R.; Tolvanen, P.; Al-Hendy,
Mol. Microbiol. 17, 575-594, 1995
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A; Status: preliminary
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100.0%; Pr
'--> 0;
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b; Pred. No. 68;
0; Mismatches
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68;
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A;Molecule type: DNA
A;Residues: 1-235 <GLA>
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    A;Cross-references: EMBL:AL031035; PIDN:CAA19891.1; A;Experimental source: strain A3(2)
                                         A; Molecule type: DNA
A; Residues: 1-241 < MUR>
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C; Superfamily:
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D.; Jours, L., Science 294, 849-852, 2001
Science 294, 849-852, 2001
A; Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, A; Authors: Kreft, J.; Kimoes, N.; Tierrez, A.; Vazquez-Boland, J. ok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J. A; Title: Comparative genomics of Listeria species.
A; Title: Comparative genomics of Listeria species.
A; Total Comparative genomics of Listeria species.
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C:Accession: AC1368
R:Glaser, P.; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.;
R:Glaser, P.; Ernangeul, L.; Buchaud, E.; Durand, L.; Dussurget, O.; Entlan, K.D.;
                                                                                                                                                                                                                       R;Murphy, L.; Harris, D.; Parkhill, J.; I submitted to the EMBL Data Library, July A:Reference number: Z21578
                                                                                                                                                                                                                                                                                                                                                                          hypothetical protein SC6A9.06 SC6A9.06 - Streptomyces coelicolor C;Species: Streptomyces coelicolor C;Date: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change C;Accession: T35437
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C;Species: Listeria monocytogenes
C;Date: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 14-Dec-2001
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C; Superfamily: Methanococcus DNA repair protein
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                                                                                                                              A; Status: preliminary; translated from
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A;Experimental source: strain Delta H
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R:Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, F.; Masui, N.; Fuji, Nucielc Acids Res. 28, 4317-4331, 2000
A:Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodu. A:Reference number: A83650; MUID:20512582; PMID:11058132
A:Accession: C84005
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A;Title: Bacillus subtilis acyl carrier protein is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   phospholipid biosynthesis protein plsX [validated] - Bacillus subtilis C;Species: Bacillus subtilis C;Date: 18-Feb-2000 #sequence_revision 18-Feb-2000 #text_change 02-Sep-2000
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C;Species: Bacillus halodurans
C;Date: 01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 15-Jun-2001
C;Accession: C84005
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A; Gene: SCOEDB: SC6A9.06
C; Superfamily: glycerop
                                                                                                       A; Description: plays a poorly understood role A; Pathway: phospholipid synthesis [validated, C; Superfamily: phospholipid synthesis protein
                                                                                                                                                                     A:Map position: 135-145 degrees
C:Function:
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A;Accession: T46631
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A; Residues: 1-268 <CRO>
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                    A; Experimental source: strain C; Genetics:
                                                                                                                                         A;Title: Whole genome sequencing of meticillin-resistant A;Reference number: A89758; MUID:21311952; PMID:11418146 A;Accession: D89902
                                                                                                                                                                                                     R;Kuroda, M.; Ohta, T.; Uchlyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; ma, A.; Mizutani-Ui, Y.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K. Lancet 357, 125-1240, 2001
                                                                                                                                                                                                                                                                                                                                   conserved hypothetical protein SA1124 [imported] - Staphylococcus aureus (strain N315
C;Species: Staphylococcus aureus
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                                           A;Cross-references: GB:BA000018; PID:g13701081; PIDN:BAB42376.1; A;Experimental source: strain N315
                                                                                  A; Molecule type: DNA
A; Residues: 1-275 < KUR>
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R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Ber C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, Nature 390, 249-256, 1997

A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Galiech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M. Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardino A;Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mau y, M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portete Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Sadale, Y.; Sato, T.; Scanl A;Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Se akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiya akuthors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A.
A.;Title: The complete genome sequence of the Gram-positive bacterium Bacillus subtili
                                                                                                                                                                                                                                                                                                               C;Superfamily: enoyl-[acyl-carrier-protein] reductase (NADH); short-chain C;Reywords: fatty acid biosynthesis; inner membrane; NAD; oxidoreductase F;19-203/Domain: short-chain alcohol dehydrogenase homology <SADH>
                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Description: catalyzes reduction by NADH of enoyl-acyl-carrier-protein A; Pathway: fatty acid biosynthesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: GB:Z99110; GB:AL009126; NID:g2633472; PIDN:CAB13029.1; PID:g26335
A;Experlmental source: strain 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-269 <KUN>
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C; Date: 05-Dec-1997 #sequence_revision
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C; Species: Bacillus subtilis
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RDGFLL
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                                                                                                                                         Conservative
                                                                                                                      23.1%; Pr
100.0%; Pr
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Stapylococcus

Sekimizu,

GSPDB:GN00149

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R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Berter C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; Chd A.; Ebrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, E. A; Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Galler iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M.F. Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardinois, A.Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Maueelly, M.; Ogiwara, A.; Oddega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portetelle Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Sadaie, Y.; Sato, T.; Scanlon, A.Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Serolakeuchi, M.; Tamakoshi, A.; Tanakak, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiyama, T.; Winters, P.; Wipat, A.; Yamamoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yoshida, K.; A; Authors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A. A; Title: The complete genome sequence of the Gram-positive bacterium Bacillus subtilis. A; A; Acterices on E70038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Accession: T35791
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-279 <SEE>
A;Cross-references: EMBL:AL031013; PIDN:CAA19796.1;
A;Experimental source: strain A3(2)
C;Genetics:
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R;Seeger, K.J.; Harris, D.; Parkhill, J.; Barrell, B.G.; Rajandream, M.A.
                                                                                                                                 C; Genetics:
                                                                                                                                                             A;Cross-references: GB:Z99121; GB:AL009126; A;Experimental source: strain 168
                                                                                                                                                                                                            A;Status: preliminary; nucleic acid sequence not shown; translation not shown A;Molecule type: DNA A;Residues: 1-283 <KUN>
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C; Superfamily: maltose
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Query Match

Score

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2

Length

41

Methylophilus methylotrophus

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C;Accession: AB0105
C;Accession: AB0105
C;Accession: AB0105
C;Accession: AB0105
C;Accession: About A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, il, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barra Nature 413, 523-527, 2001
A;Title: Genome sequence of Yersinia pestis, the causative agent of plague.
A;Reference number: AB0001; MUID:21470413; PMID:11586360
                                                                                                                                                                                             A;Gene: YPO0854
C;Superfamily: maltose transport protein malG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            probable maltodextrin permease protein YPO0854 [imported] - Yersinia pestis (strain
C;Species: Yersinia pestis
C;Date: 02-Nov-2001 #sequence_revision 02-Nov-2001 #text_change 09-Nov-2001
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AB0105
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Nucleic Acids Res. 28, 4317-4331, 2000
A;Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans
A;Reference number: A83650; MUID:20512582; PMID:11058132
                                                                                                                                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-283 < KUR>
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C;Date: 01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 15-Jun-2001
C;Accession: EB3902
                                                                                                                                                                                                                                             C; Genetics:
                                                                                                                                                                                                                                                              A;Cross-references: GB:AL590842; PIDN:CAC89701.1;
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A; Residues: 1-283 <STO>
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                                                                                                                                                                                                                                                                                                                              A; Status: preliminary
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Best Local
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116 FLLLQM 121
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Pred. No.
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endonuclease IV BH1386 (imported) - Bacillus halodurans (strain C-125) C; Species: Bacillus halodurans C; Date: 01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 15-Jun-2001 C; Accession: B83823 R; Takami, H.; Makasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fuji, F.; Hira Nucleic Acids Res. 28, 4317-4331, 2000 A; Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans and A; Reference number: A83650; MUID:20512582; PMID:11058132 A; Accession: B83823 A; Status: preliminary Association (NAM)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C:Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 21-Jul-2000 C:Accession: T10069
R:Chistoserdov, A.Y.; McIntire, W.S.; Mathews, F.S.; Lidstrom, M.E.
J. Bacteriol. 176, 4073-4060, 1994
A:Title: Organization of the methylamine utilization (mau) yenes in Methylop A:Reference number: Z16936; MUID:94292427
A:Recession: T10069
A:Status: preliminary: translated from GB/EMBL/DDBJ
A:Molecule type: DNA
A:Residues: 1-285 <CHI>
A:Cross-references: EMBL:L26407; NID:g561931; PIDN:AAB46947 1; PID:g556330
A:Experimental source: strain W3A1
C:Genetics:
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B83823
A; Molecule type: DNA . A; Molecule type: DNA . A; Residues: 1-298 < STO> A; Residues: 1-298 < STO> A; Cross-references: GB: APO01511; GB: BA0000004; NID: g10173727; PIDN: BAB05105.1; A; Experimental source: strain C-125 C; Genetics:
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hes 6; Conser
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Pred. No.
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R.Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.; ma, A.; Mizutani-Ui, Y.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; Sekimizu, C.; Shiba, T.; Hattoril, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
Lancet 357, 1225-1240, 2001
A:Title: Whole genome sequencing of meticillin-resistant Stapylococcus aureus. A; Reference number: AB9758; MUID:21311952; PMID:11418146
A.; Accession: F90026
A.; Accession: F90026
A.; Status: preliminary
A.; Molecule type: DNA
A.; Residues: 1-313 CKUR>
A.; Cross-references: GB:BA000018; PID:g13702083; PIDN:BAB43375.1; GSPDB:GN00149
A.; Experimental source: strain N315
C.; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Kuroda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.; ma, A.; Mizutani-Ui, Y.; Kobayashi, N.; Sawano, T.; Inoue, R.; Kaito, C.; Sekimizu, C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.

Lancet 357, 1225-1240, 2001
A;Title: Whole genome sequencing of meticillin-resistant Stapylococcus aureus.

A;Reference number: A89758; MUID:21311952; pMID:11418146
A;Accession: H89881
A;Status: preliminary
                     Query Match
Best Local Similarity
Watches 6; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                         C:Species: Staphylococcus aureus
C:Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 22-Oct-2001
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Best Local Similarity
Watches 6; Conserv:
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C; Superfamily: cytochrome caa3 oxidase
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A;Residues: 1-303 <KUR>
A;Cross-references: GB:BA00001B; PID:gl3700916; PIDN:BAB42212.1;
A;Experimental source: strain N315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hypothetical protein SA0964 [imported] - Staphylococcus aureus (strain N315) C;Species: Staphylococcus aureus C;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 22-Oct-2001
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C:Superfamily: deoxyribonuclease IV (phage T4-induced)
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Pred. No.
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Involved in fatty acid/phospholipid synthesis plsx - Bacillus subtilis
C:Species: Bacillus subtilis
C:Species: Bacillus subtilis
C:Species: Bacillus subtilis
C:Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 20-Jun-2000
C:Accession: H69679
R:Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Berter
C: Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; Cha
A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, E.
Nature 390, 249-256, 1997
A:Authors: Fooliger, D.; Fritz, C.; Fujita, M.; Fujita, V.; Fuma, S.; Galizzi, A.; Galler
iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M.F.
Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Liu, H.; Masuda, S.; Maueel
Y, M.; Oqawa, K.; Oqiwara, A.; Oudega, B.; Park, S.H.; Levine, A.; Liu, H.; Msuda, S.; Maueel
Y, M.; Oqawa, K.; Oqiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portetelle
Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Sadale, Y.; Sato, T.; Scanion,
A:Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Seror
akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchlyama,
T.; Winters, P.; Wipat, A.; Yamamoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yoshida, K
A:Authors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A.;
A:Reference number: Accession: H69679
A:Status: preliminary; nucleic acid sequence of the Gram-positive bacterium Bacillus subtilis.
A:Residues: I.333 <KUN
A:Residues: I.333 <KUN
A:Residues: I.333 <KUN
A:Residues: I.333 <KUN
A:Residues: Rose, M.; Seror
A:Re
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R;She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redd arrett, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J. submitted to GenBank, April 2001
A;Description: Sulfolobus solfataricus complete genome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 muconate cycloisomerase related protein [imported] - Sulfolobus solfataricus C:Species: Sulfolobus solfataricus C:Date: 24-May-2001 #sequence_revision 24-May-2001 #text_change 24-May-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Watches 6; Conserv
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A; Molecule type: DNA
A; Residues: 1-393 < KUR>
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A; Accession: H90440
                                                                                                                                                                                          Query Match
265 LVDFLQ 270
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                                                               18 LVDFLQ 23
                                                                                                                              Local Similarity
nes 6; Conserv
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lo. 1e+02;
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lo. 1.2e+02;
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G71816
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RESULT 48
G90114
G90114
G90114
TPIIB related factor hBRF [imported] - Guillardia theta nucleomorph
C;Species; nucleomorph Guillardia theta
C;Species; nucleomorph is the vestigial nucleus of a eukaryotic endosymbiont
C;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 24-May-2001
C;Accession: G90114
R;Douglas, S.; Zauner, S.; Fraunholz, M.; Beaton, M.; Penny, S.; Deng, L.T.; Wu,
Nature 410, 1991-1096, 2001
probable type II restriction enzyme - Helicobacter pylori (strain J99)
C;Specles: Helicobacter pylori
A;Variety: strain J99
C;Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 08-Oct-1999
C;Accession: G71816
C;Accession: G71816
R;Alm, R.A.; Ling, L.S.L.; Moir, D.T.; King, B.L.; Brown, E.D.; Doig, P.C.; Smith, D. R;Alm, R.A.; Ling, L.S.L.; Morberg, D.; Mills, S.D.; Jiang, Q.; Taylor, D.E.; Vovis, G.F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cispecies: Helicobacter pylori
C;Date: 09-Aug-1997 #sequence_revision 09-Aug-1997 #text_change 08-Oct-1999
C;Date: 09-Aug-1997 #sequence_revision 09-Aug-1997 #text_change 08-Oct-1999
C;Accession: G64703
R;Tomb, J.F.; White, O.; Kerlavage, A.R.; Clayton, R.A.; Sutton, G.G.; Fleischmann, R Peterson, S.; Loftus, B.; Richardson, D.; Dodson, R.; Khalak, H.G.; Glodek, A.; McKe son, J.D.; Kelley, J.M.; Cotton, M.D.; Weidman, J.M.; Fujii, C.; Bowman, C.; Watthey, Nature 388, 539-547, 1997
A;Authors: Wallin, E.; Hayes, M.S.; Borodovsky, M.; Karpk, P.D.; Smith, H.O.; Fraser, A;Title: The complete genome sequence of the gastric pathogen Helicobacter pylori. A;Accession: G64703
A;Accession: G64703
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Best Local Similarity
"~+~hes 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references:
C;Genetics:
A;Start codon: GTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: DNA
A; Residues: 1-397 < TOM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Status: preliminary; nucleic acid sequence not shown;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           type ITS restriction enzyme R protein - Helicobacter pylori (strain 26695)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Genome: nucleomorph C; Keywords: nucleomorph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Map position: 2
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A; Residues: 1-394 <DOU>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
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les 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GB:AE000647; GB:AE000511; NID:g2314645; PIDN:AAD08511.1; PID:g231
                                                                                                                                                                                                                                                                                                                                                                                                                                           23.1%; >--
100.0%; Pr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     %; Score 6; DB 2
%; Pred. No. 1.2
0; Mismatches
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1.2e+02;
0;
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Mature 397, 176-180, 1999
A:Intle: Genome sequence comparison of two unrelated isolates of the human gastric path sketcence number: A71800; MUID:99120557
A:Accession: Cyta 180
A:Ablacula 1978: LNNAY
A:Ablacula 1978: LNNAY
A:Accession: Cyta CANAN
A:Croser-references: GB:AE001559; GB:AE001439; MID:94155974; PIDN:AAD06539.1; PID:9415597
A:Experimental source: strain 399
C:GeneLics:
A:Experimental source: strain 399
A:Experimental source: Strain 39
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
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OM protein - protein search, using sw model

Run on: June 19, 2002, 11:08:01; Search time 10.35 Seconds (without alignments) 97.267 Million cell updates/sec

Title: Perfect score: Sequence: Scoring table: US-09-943-334-1
26
1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26

Searched: 105224 segs, 38719550 residues OLIGO Gapop 60.0 , Gapext 60.0

Word size : 0

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Listing first 75 summaries

Database : SwissProt\_40:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score 26	Query Match	Length	DB 1 :-	ID CETP_HUMAN	Description
w w	ა გ 5	100.0 96.2	493 289	<u>,,</u> ,	CETP_MACFA	P47896
4	11	42.3	497	μ,	CETP_RABIT	F22687
Ç	7		421	Ľ	SNAA_STRPR	F54991
6	7	26.9	825	1	Y240_ARATH	022224
7	7	•	961	-	VP2_BTV1A	P12434
æ	7	26.9	961	<b>-</b>	VP2_BTV1S	P32508
9	7	•	961	<u></u>	VP2_BTV1V	006997
10	6	•	96	۳	YDIZ_ECOLI	P76207
11	6	23.1	144	1	Y638_TREPA	083645
12	6	23.1	153	۲	MAUF_METEL	050418
13	6	23.1	167	-	NUB2_RHIME	P56897
14	6		189	<b></b>	INA4 HUMAN	F05014
15	. 0	•	214	Н	KAD_YEREN	P43412
16	S	23.1	214	-	KAD_YERPE	069172
17	. 6	٠	234	۲	RADB_METTH	()27728
18	6	23.1	258	-	FABI_BACSU	F54616
19	O	23,1	269	Н	CYST_MESVI	(19mul9
20	6		285	1	MAUF_METME	Q50230
21	. 0		286	μ	YY74_PSEAE	Ç168826
22	6	23.1	295	-	TF_RAT	F42533
23	0,		298	Ľ	END4_BACHD	Çı9kd33
24	. 0	•	333	ш	PLSX_BACSU	F71018
25	0	•	410	1	AUP1_MOUSE	F70295
26	. 0		422	1	AP47_CAEEL	F35602
27	0	23.1	423	-	A1M2_HUMAN	Ç19y6q5
28	σ	23.1	423	<b>-</b>	A1M2_MOUSE	(dam6i)
29	σ	23.1	443	<u></u>	MT17_KLULA	092441
30	o	23.1	489	_	LEF9_NPVOP	010319
31	ō	23.1	491	1	A2AP_HUMAN	F08697
32	თ	23.1		_	מפוע בר ברכבי	029473
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156 157 159 161	148 150 151	140 143 146 146	117 119 130 130 131 134	32 45 48 63 74 104	628 715 892 911 1058 1188 11246 12451 1451 1636 1877 1877
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CYNS_ECOLI YTEF_BACSU COAD_STRCO COAD_AQUAE	LYC2_RAT YMEL_STRLN DTD_LACLA CYNS_ECO57	ANF_CHICK  ANF_CHICK  MK_HUMAN  AP4A_HUMAN  AP4A_HUMAN  AP4A_MOUSE  AP4A_PIG  LYC1_RAT		YSK6 SSV1 ATP8_HANWI ATP8_HANWI IAC1_BOVIN YC55_HAEIN VE5_HPV51 YVBE_VACCV DSVC_DESVH GON2_TUPGB	HCYF_EURCA ORC3_MOUSE MIS5_SCHPO CHSG_ASPPU PMA1_DICDI YEC5_YEAST YMV2_CAEEL SPT6_YEAST YN37_YEAST PCK5_RAT ATX1_PLAFA APB_HUMAN
* H B 0	rattus strepto lactoco escheri			P512/5 porphyra pu P512/9 sulfolobus P20198 sulfolobus P40882 hansenula w P601000 bos taurus P44141 haemophilus P26553 human papil P20545 vaccinia vi P45573 desulfovibr Q95336 tupaia q1is	eurypelma mus muscc schizosac aspergill dictyostc saccharon caenorhat saccharon rattus nc plasmodil

## ALIGNMENTS

RA S	R R R	RL	ŖΊ	RT	RA	RA	RX	RP	RN	õ	8	႙	20	C N	D	DE	ΡŢ	Ţ	PΤ	Ã	Ħ	CETP	RESULT
Agellon L.B., Quinet E.M., Gillette T.G., Drayna D.T., Brown M.L.,	E2] SEQUENCE FROM N.A. MEDITEE-002/1009: Bubbod-233/4701.	Nature 327:632-634(1987).	cDNA.";	"Cloning and sequencing of human cholesteryl ester transfer protein	Lawn R.;	Drayna D., Jarnagin A.S., McLean J., Henzel W., Kohr W., Fielding C.,	meDLINE=87258172; PubMed=3600759;	SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.	[1]	NCBI_TaxID=9606;	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	Homo sapiens (Human).	CETP.	I).	Cholesteryl ester transfer protein precursor (Lipid transfer protein	16-OCT-2001 (Rel. 40, Last annotation update)	01-OCT-1989 (Rel. 12, Last sequence update)	01-OCT-1989 (Rel. 12, Created)	P11597; Q13987; Q13988;	CETP_HUMAN STANDARD; PRT; 493 AA.	CETP_HUMAN	LT 1

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PROSITE; PS00400; LBP_BF1_LL., Lipid transport; Cholesterol metabolism; **harosclerosis; Disease mutation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Oliveira C.F.O., Chouinard R.A., Agellon L.B., Bruce C., Ma L., Walsh A., Breslow J.L., Tall A.R.;
"Human cholesteryl ester transfer protein gene proximal promoter contains dietary cholesterol positive responsive elements and mediates expression in small intestine and periphery while predominant liver and spleen expression is controlled by 5'-distal sequences. Cis-acting sequences mapped in transgenic mice.",
J. Biol. Chem. 271:31831-31838(1996).
                                                                                                          SMART;
                                                                                                                                                                                                                                                            EMBL;
EMBL;
EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
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Gene 197:101-107(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Williams S., Hayes L., Elsenboss L., Williams A., Andre C.,
Abramson R., Thompson J.F., Milos P.M.;
"Sequencing of the cholesteryl ester transfer protein 5' regulatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       J. Clin. Invest. 92:2060-2064(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Takahashi K., Jiang X.-C., Sakai N.
Yamazaki H., Kusunoki J., Miura T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=94013514; PubMed=8408659;
Takahashi K., Jiang X.-C., Sakai N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dinchuk J.E., Hart J.T., Submitted (FEB-1992) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-97112972;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biochemistry [3]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tall A.R.; "Organization
                                                                                          SMART;
                                                                                                        InterPro: IPRO01124; LBP_BPI_CETP Pfam; PF01273; LBP_BPI_CETP; 1. Pfam; PF02866; LBP_BPI_CETP_C; 1. SMART; SM00328; BPI1; 1.
                                                                                                                                                                                                                                            EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 9-493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-97473500;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 1-15 FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     missense mutation in the cholesteryl ester
                                                                                                                                                                                                                                   L; M30185; AAAS1977.1; -.
L; M32998; AAAS1978.1; JOINED.
L; M32993; AAAS1978.1; JOINED.
L; M32994; AAAS1978.1; JOINED.
L; M32994; AAAS1978.1; JOINED.
L; M32996; AAAS1978.1; JOINED.
L; M32996; AAAS1978.1; JOINED.
L; M32997; AAAS1978.1; JOINED.
L; M32997; AAAS1978.1; JOINED.
L; M32997; AAAS1978.1; JOINED.
L; M32997; AAAS1978.1; -.
L; AF027666; AAB86604.1; -.
L; M83573; AAB89388.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBCELLULAR LOCATION: Extracellular.
TISSUE SPECIFICITY: PLASMA; SYNTHESIZED MAINLY IN THE LIVER
DISEASE: PROBABLY INVOLVED IN THE DEVELOPMENT OF ATHEROSCLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the EN European Bioinformatics Institute. There are no resti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DISEASE: PROBABLY INVOLVED IN THE DEVELOPMENT OF ATH SIMILARITY: BELONGS TO THE BPI/CETP/LBP/PLTP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OF CHOLESTEROL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRANSFER OF INSOLUBLE
                                                                                                                                                                                                118470;
                                                                                                                                                                                                                   A26941; A26941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              possible dominant effects on plasma
                                                                                        SM00329; BPI2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ) of the human cholesteryl ester transfer 29:1372-1376(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FROM N.A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PubMed=8943225;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.lsb-slb.ch/announce/
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                                                                                                                             Pfam; PF01273; LBP_BPI_CETP; 1.
Pfam; PF02886; LBP_BPI_CETP_C; 1.
SMART; SM0328; BPI1; 1.
SMART; SM00329; BPI2; 1.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
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                                                                                                                                                                                                               interPro;
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TISSUE SPECIFICITY: PLASMA; SYNTHESIZED MAINLY IN TH
SIMILARITY: BELONGS TO THE BPI/CETP/LBP/PLTP FAMILY.
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MISSING (IN REF. 5).
I -> V (IN REF. 2).
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MEDLING-91154277; PubMed=1999438;

Jiang X.C., Moulin P., Quinet E., Goldberg I.J., Yacoub L.

Agellon L.B., Compton D., Schnitzer-Polokoff R., Tall A.R.

"Mammalian adipose tissue and muscle are major sources of
transfer protein mRNA."

J. Biol. Chem. 266:4631-4639(1991).

-I- FUNCTION: CETP IS AN EXTREMELY HYDROPHOBIC PROTEIN INV
TRANSFER OF INSOLUBLE CHOLESTERYL ESTERS IN THE REVERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-1992 (Rel. 22, Created)
01-MAY-1992 (Rel. 22, Last sequence update)
01-NOY-1997 (Rel. 25, Last annotation update)
Cholesteryl ester transfer protein (Lipid transfer
                                                                                                                                                                                                                                                                        EMBL; M63992; AAA37066.1; -.
PIR; A38700; A38700.
InterPro; IPRO01124; LBP_BPI_CETP.
Pfam; PF01273; LBP_BPI_CETP; 1.
Pfam; PF03886; LBP_BPI_CETP_C; 1.
SMART; SM0329; BPIZ; 1.
PROSITE; PS00400; LBP_BPI_CETP; PARTIAL.
LIDId transport; Cholesterol metabolism; Glycoprotein.
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P25914;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mesocricetus auratus (Golden hamster).
Eukaryota; Metazoa; Chordata; Cranlata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
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TISSUE SPECIFICITY: PLASMA.
SIMILARITY: BELONGS TO THE BPI/CETP/LBP/PLTP FAMILY.
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RESULT 4
CETP_RABIT
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Best Local Similarity
Matches 11; Conser
                                                                                                                                                                                                                                                                                  CHAIN
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Transfer protein.";
J. Lipid Res. 29:1643-1649(1988).
-!- FUNCTION: CETP IS AN EXTREMELY HYDROPHOBIC P
                         SNAA_STRPR
P54991;
                                                                                                                                                                                                                      CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                              CARBOHYD
CARBOHYD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
MEDLINE-89215620; PubMed-3244015;
Nagashima M., McLean J.W., Lawn R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-AUG-1991
01-NOV-1997
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01-AUG-1991
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InterPro; IPRO1124; LBP_BPI_CETP
Pfam; PF01273; LBP_BPI_CETP; 1.
Pfam; PF02866; LBP_BPI_CETP_C; 2.
SMART; SM00328; BPI; 1.
SMART; SM00329; BPI2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oryctolagus cuniculus (Rabbit).
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Lagomorpha; Leporidae; Oryctolagus,
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 01-OCT-1996
01-NOV-1997
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or send an email to license@isb-sib.ch).
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Lipid transport; Cholesterol metabolism;
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                                                                                                     487
                                                                                                                             16 HLLVDFLQSLS
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TISSUE SPECIFICITY: PLASMA; SYNTHESIZED MAINLY IN THE LIVER
SIMILARITY: BELONGS TO THE BPI/CETP/LBP/PLTP FAMILY.
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(Rel. 1)
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                                                                                                                                                        Conservative
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35, Last
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N-LINKED (GLCNAC. .) (POTENTIAL).

MW; E82944E1821D0332 CRC64;
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Pred. No.
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16-OCT-2001 (Rel. 4
16-OCT-2001 (Rel. 4
16-OCT-2001 (Rel. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Thibaut D., Ratet N., Bisch D., Faucher D., Debussche L., Bie "Purification of the two-enzyme system catalyzing the oxidation be D-proline residue of pristinamycin IIB during the last st pristinamycin IIA biosynthesis.";
pristinamycin IIA biosynthesis.";
J. Bacteriol. 177:5199-5205(1995). OF THE PROLINE RESIDUE 11- FUNCTION: CATALYZES THE OXIDATION OF THE PROLINE RESIDUE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Blanc V. Lagneaux D., Didder P., Gil P., Lacroix P., Crouzet J. "Cloning and analysis of structural genes from Streptomyces pristinaespiralis encoding enzymes involved in the conversion of pristinamycin IIB to pristinamycin IIA (PIIA): PIIA synthase and NADH.riboflavin 5', phosphate oxidoreductase."; J. Bacteriol. 177:5206-5214(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Streptomyces pristinaespiralis.
Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
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Pristinamycin
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MEDLINE-95394836; PubMed-766
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                                        Arabidopsis thaliana (Mouse-ear cress).

Bukaryota; Viridiplantae; Streptophyta; Embryo
Spermatophyta; Magnoliophyta; eudicotyledons;
eurosids II; Brassicales; Brassicaceae; Arabic
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InterPro; IPR002103; Bac_luciferase.
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SEQUENCE FROM N.A.
                          NCBI_TaxID=3702;
                                                                                                       AT2G41620 OR T32G6.14.
                                                                                                                      Protein At2g41620
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subunit A (PIIA synthase subunit
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P12434;
01-OCT-1989
01-NOV-1991
15-DEC-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Sarazin B., Tonella L., Marques K., Paesano
Heller M., Sanchez J.-C., Hochstrasser D., 1
Unpublished observations (SEP-2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Venter J.C.
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       Bluetongue virus (serotype 1 / isolate Australia).
Viruses; dsRNA viruses; Reoviridae; Orbivirus.
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                                                                                                     Submitted
                                                                                                                                                                                  MEDLINE-88203217;
Yamaguchi S., Fuk
                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                              Viruses; dsRNA viruses; NCBI_TaxID=10904;
                                                       Gould A.R.;
                                                                               SEQUENCE FROM
                                                                                                               Marshall
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FUNCTION:
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                                                                    PubMed-2833046;
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VP2 gene of the bluetongue virus serotype
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SEQUENCE
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P32508;
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                                                                                                                                                                                    Wade-Evans A.M., Mertens P.P.C.;

"Expression of the outer capsid protein, VP2, from a full length cDNA clone of genome segment 2 of bluetongue serotype 1 from South Africa, using both Sp6 and vaccinia expression systems and a comparison of the nucleic acid sequence of this segment with those of other
                                                                                                                                                                                                                                                                                                                                        01-OCT-1993 (Rel. 27,
01-OCT-1993 (Rel. 27,
15-DEC-1998 (Rel. 37,
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InterPro; IPR001742; Orbi_VP2.
Pfam; PF00898; Orbi_VP2; 1.
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EMBL; M21844; AAA42844.1;
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                                              SEQUENCE 961
                                                                                                                                                               serotypes.";
Virus Res. 15:213-230(1990).
                                                                                                                                                                                                                                              SEQUENCE FROM N.A., AND SEQUENCE OF MEDLINE-90261331; PubMed-2160764;
                                                                                                                                                                                                                                                                               NCBI_TaxID-10905;
                                                                                                                                                                                                                                                                                          Bluetongue virus (serotype 1 / isolate South Africa).
Viruses; dsRNA viruses; Reoviridae; Orbivirus.
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                                                                                          FINACTION: THE VP2 PROTEIN IS ONE OF THE TWO PROTEINS WHICH CONSTITUTE THE VIRUS PARTICLE OUTER CAPSID. IN MAJOR TARGET OF THE HOST IMMUNOGENIC RESPONSE.

SINILARITY: BELONGS TO THE RECVIRUSES VP2 FAMILY.

AGOO14: PAXRSA.

SETPIC: IPRO01742; OID1_VP2.
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                                                   YULZ_ECOLI STANDARD; PRT; 96
P76207;
15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence updat
15-JUL-1998 (Rel. 36, Last sequence updat
16-OCT-2001 (Rel. 40, Last annotation updat)
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Hypothetical protein ydiz.
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Escherichia coli, 10157:H7.
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Q06997;
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SEQUENCE 90
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bluetongue virus (serotype 1 / isolate South Africa vaccine).
Viruses; dsRNA viruses; Reoviridae; Orbivirus.
                                Escherichia
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SEQUENCE FROM N.A
                     NCBI_TaxID-562, 83334;
                                           Bacteria; Proteobacteria;
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16-0CT-2001 (Rel. 4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hayashi T., Makino K., Ohnishi M., Kurokawa K., Ishii K., Yokoyama K., Han C.-G., Ohtsubo E., Nakayama K., Murata T., Tanaka M., Tobe T., Iida T., Takami H., Honda T., Sasakawa C., Ogasawara N., Yasunaga T., Kuhara S., Shiba T., Hattori M., Shinagawa H., 'Complete genome sequence of enterohemorrhagic Escherichia coli 0157:H7 and genomic comparison with a laboratory strain K-12."; DNA Res. 8:11-22(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Perna N.T., Plunkett G. III, Burland V., Mau B., Glasner J.D., Rose D.J., Mayhew G.F., Evans P.S., Gregor J., Kirkpatrick H.A., Posfal G., Hackett J., Klink S., Boutin A., Shao Y., Miller L., Grotbeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamusis K., Apodaca J., Anantharaman T.S., Lin J., Yen G., Schwartz D.C., Welch R.A., Blattner F.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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MEDLINE=97426617; PubMed=9278503;
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MEDLINE=21156231; PubMed=11258796;
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MEDLINE-21074935; PubMed-11206551;
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                                                                                                                                                                                                                                                                                                                                                                                                                       Hypothetical protein; Complete SEQUENCE 96 AA; 10865 MW; 7
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                                                        Treponema pallidum.
Bacteria; Spirochaetales;
CEI_TaxID=160;
                                                                                                                       Hypothetical
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 MEDLINE-98332770;
               STRAIN-NICHOLS;
                            SEQUENCE FROM N.A.
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722C0F845B91A855 CRC64;
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Q50418; Q504
01-NOV-1997
01-NOV-1997
01-MAR-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fraser C.M., Norris S.J., Weinstock G.M., White O., Sutton G.G., Dodson R., Gwinn M., Hickey E.K., Clayton R., Ketchum K.A., Sodergren E., Hardham J.M., McLeod M.P., Salzberg S., Peterson J., Khalak H., Richardson D., Howell J.K., Chidambaram M., Utterback T. Khalak H., Richardson D., Howell J.K., Chidambaram M., Utterback T. McDonald L., Artiach P., Bowman C., Cotton M.D., Fujii C., Garland McDonald L., Artiach P., Bowman C., Cotton M.D., Fujii C., Garland
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                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                 Gak E.R., Chistoserdov A.Y., Lidstrom M.E.;
"Cloning, sequencing, and mutation of a gene
Methylobacillus flagellatum KT",
J. Bacteriol. 177:4575-4578(1995).
-1- PATHWAY: METHYLAMINE UTILIZATION.
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    -!- SUBCELLULAR LOCATION: Integral membrane

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                                                                                                                                                                                                                                        STRAIN=KT / ATTC 51484 / DSM 6875
MEDLINE=95362696; PubMed=7635847;
                                                                                                                                                                                                                                                                                                                                     Methylobacillus
                                                                                                                                                                                                                                                                                                                                                                   Methylamine
                                      entities requires a license agreement ( or send an email to license@isb-sib.ch)
                                                                  use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                             NCBI_TaxID=405;
                                                                                                                                                                                                                                                                                                              {\tt Methylobacillus}.
                                                                                                                                                                                                                                                                                                                           Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           71 LLVDFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
hes 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17 LLVDFL
                                                                                                                                          SUBCELLULAR LOCATION: Integral membrane
L37428; Av
AF188997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TP0638;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AE001239;
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                                                                                                                                                                                                                                                                                                                                                                                                                          Q50419;
                                                                                                                                                                                                                                                                                                                                                                 7 (Rel. 35, Cro
7 (Rel. 35, Lag
2 (Rel. 41, Lag
a utilization)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     144 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             76
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85
122
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
AAC41467.1;
7; AAC41468.
                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
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                                                                                                                                                                                                                                                                                                                                        flagellatum
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73
107
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; Transmembrane; Com
29 POTENTIAL.
73 POTENTIAL.
07 POTENTIAL.
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                                                                                                                                                                                                                                                                                                                                                                   protein mauf
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL.
; 7D93DA9921FC7699 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                            subdivision; Methylophilus group;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                     / VKM B-1610;
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(Fragments).
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                                                        http://www.isb-sib.
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RESULT 13

NUB2_RHIME
ID NUB2_R
AC P56897
DT 30-MAR
DT 01-MAR
RD (1)
RN [1]
RN [2]
RN [1]
RN [
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Matches 6
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30 MAY-2002 (Rel. 41, Last sequence update)
01-MAR-2002 (Rel. 41, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
01-MAR-2002 (Rel. 41, Last sequence update)
01
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TRANSMEM 3
TRANSMEM 5
NON_CONS 111
TRANSMEM 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted [2]
                                                                                                  Complete
METAL
                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                             EMBL; AJ245399; CAB51630.1; -.
EMBL; AE007270; AAK65491.1; -.
Interpro; IPR002096; Complex1_20kD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Putnoky P., Jady B., Chellar
"Rhizobium meliloti carries
Submitted (JUL-1999) to the
                                                                                                                                              Oxidoreductase; NAD; Ubiquinone; Iron-sulfur; 4Fe-4S;
                                                                                                                                                                       Pfam; PF01058; oxidored_q6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-21396509; PubMed-11481432;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUB2_RHIME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 131 DGFLLL 136
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
6; Conserv
                                                                                                                           proteome
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15761
     38
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103
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167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chellapilla K.P., Barta F., Kiss E.; carries two sets of nuo genes."; to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₹
IRON-SULFUR (4FE-45)
IRON-SULFUR (4FE-45)
IRON-SULFUR (4FE-45)
IRON-SULFUR (4FE-45)
S -> L (IN REF. 1).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 1;
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                                              (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
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                              (POTENTIAL
                                                                                                                                                    Plasmid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
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INA4_HUMAN
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Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Linnane A.W., Beilharz M.W., McMullen G.L., Macreadie I.G., Murphy M., Nisbet I.T., Novitski C.E., Woodrow G.C.;
"Nucleotide sequence and expression in E. coli of a human interferonalpha gene selected from a genomic library using synthetic oligonucleotides.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INA_HUMAN STANDARD; PRT; 189 AA.

P05014; P13358;
13-AUG-1987 (Rel. 05, Created)
13-AUG-1987 (Rel. 05, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
Interferon alpha-4 precursor (Interferon alpha-4B) (Interferon alpha-M1) (Interferon alpha-76).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                 Cytakine;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biochem. Int. 8:725-732(1984).

-i- FUNCTION: PRODUCED BY MACROPHAGES, IFN-ALPHA HAVE ANTIVIRAL
-i- FUNCTION: PRODUCED BY MACROPHAGES, THE PRODUCTION OF TWO ENZ
ACTIVITIES. INTERFERON STIMULATES THE PRODUCTION OF TWO ENZ
A PROTEIN KINASE AND AN OLIGOADENYLATE SYNTHETASE.
-i- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                        PRINTS; PR00266; INTERFERONAB. ProDom; PD000550; Interferon_abd; SMART; SM00076; IFabd; 1.
                                                                                                                                                                                                   InterPro; IPR000471; Interferon_abd
Pfam; PF00143; Interferon; 1.
                                                                                                                                                                                                                                                 HSSP; P01563
MIM; 147564;
                                                                                                                                                                                                                                                                                                                         EMBL; X02955; CAA26701.1;
EMBL; M27318; AAA52726.1;
                                                                                                                                                                                                                                                                                                                                                                                              use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collable between the Swiss Institute of Bioinformatics and the EWBL outsithe European Bioinformatics Institute. There are no restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Henco K., Brosius J., Fujisawa A., Fujisawa J.-I.,
Hochstadt J., Kovacic T., Pasek M., Schamboeck A.,
Todokoro K., Waelchli M., Negata S., Weissmann C.;
"Structural relationship of human interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IFNA4
                                                                                                     PROSITE; PS00252;
                                                                                                                                                                                                                                                                                                PIR; E23753; IVHU4B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-84307815;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-86037205;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID-9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                       P01563; 2HIE.
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6; Conserv
                                                                          PS00252; INTERFERON_A_B_D; 1.
Antiviral; Multigene family; Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                167
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     INTERFERON ALPHA-4
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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Schmid J.,
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A collaboration -

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Best Local Similarity
Matches 6; Conser
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CONFLICT
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STRAIN-6471/76 / SEROTYPE 0:3;
MEDLINE-96100456; PubMed-8559076;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1995 (Rel.
01-NOV-1995 (Rel.
16-OCT-2001 (Rel.
                                                                                                                                                                                                                     modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-slb.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Yersinia enterocolitica.
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                                                                                                Pfam; PF00406; adenylatekinase; 1.
PRINTS; PR00094; ADENYLTKNASE;
PRODOM; PP000657; Adenylate_kin; 1.
PROSITE; PS00113; ADENYLATE_KINASE; FALSE_NEG.
TRANSFERASE; KINASE; ATP-bindig.
TRANSFERASE; KINASE; ATP-bindig.
NP_BIND 7 15
NP_BIND 7 15
SEQUENCE 214 AA; 23755 MW; 55030EA8ZEDDD4C
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HSSP; P05082; lake.
                                                                                                                                                                            InterPro;
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78
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SUBCELLULAR LOCATION: Cytoplasmic.
                                                                                                                                                                                                                                                                                                          SIMILARITY: BELONGS TO THE ADENYLATE KINASE FAMILY.
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                     RDGFLL 6
 RDGFLL
                                           Similarity
6; Conser
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                                                                                                                                                                            IPR000850; Adenylate_kin.
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. 32, Last sequence update)
. 40, Last annotation update)
. (EC 2.7.4.3) (ATP-AMP transphosphorylase)
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T -> A (IN REF. 2).
V -> E (IN REF. 2).
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55030EA82BDDD4C7 CRC64;
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RA Parkhill J., Wren B.W., Thomson N.R., Churcher C., Mungali K.L.,
RA Prentice M.B., Sebaihia M., James K.D., Churcher C., Mungali K.L.,
RA Prentice M.B., Sebaihia M., James K.D., Churcher C., Mungali K.L.,
RA Chillingworth T., Gronin A., Davies R.M., Davis P., Dougan G.,
RA Feltwell T., Hamlin N., Holroyd S., Jagels K., Karlyshev A.V.,
RA Leather S., Moule S., Oyston P.C.F., Quail M., Kutherford K.,
RA Simmonds M., Skelton J., Stevens K., Whitehead S., Barrell B.G.;
RA Simmonds M., Skelton J., Stevens K., Whitehead S., Barrell B.G.;
RA Simmonds M., Skelton J., Stevens K., Whitehead S., Barrell B.G.;
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RA Simmonds M., Skelton J., Stevens K., Whitehead S., Barrell B.G.;
RA Simmonds M., Skelton J., Stevens K., Whitehead S., Barrell B.G.;
RA Simmonds M., Skelton J., Stevens M., Skelton J., Stevens M., Skelton J., Skelton J.,
AC ID
                                                                 RADB_METTH
                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
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O69172;
15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
15-JUL-1999 (Rel. 38, Last sanctation update)
01-MAR-2002 (Rel. 41, Last annotation update)
Adenylate kinase (EC 2.7.4.3) (ATP-AMP transphosphorylase).
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SEQUENCE
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submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADK OR YPO3118
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=CO-92 / Biovar Orientalis;
MEDLINE=21470413; PubMed-11586360;
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RADB_METTH 027728;
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Pfam; PF00406; adenylatekinase; 1.

PRINTS; PR00094; ADENYLTKNASE.

PRODOm; PD000657; Adenylate_kin; 1.

PROSITE; PS00113; ADENYLATE_KINASE;

PROSITE; PS00113; ADENYLATE_KINASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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EMBL; AJ414155; CAC92354.1; -.
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                                                                                                                                                                                                                                                                                                                                                        similarity 100 6; Conservative
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                                  STANDARD;
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23672 MW;
                                                                                                                                                                                                                                                                                                                                                                                           23.1%;
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15 ATP (BY SIMILARITY).
23672 MW; 36D9FD13558E86CA CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                           Score 6; 1; Pred. No.
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linked to growth prop
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ABL BANGE

D FABL BACSU

AC P54616; O31621;

DT 01-OCT-1996 (Rel. 34, Created)

DT 30-MAY-2000 (Rel. 39, Last sequence update)

DT 16-OCT-2001 (Rel. 40, Last annotation update)

DE Enoyl-[acyl-carrier-protein] reductase [NADH] (EC 1.3.1.9) (NA

dependent enoyl-ACP reductase) (Cold-shock induced protein 15)

dependent enoyl-ACP reductase) (Cold-shock induced protein 15)
                                 FABI_BABI_BAC PEOCOC BBC CC BB
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RA Aldredge T., Bashirzadeh R., Blakely D., Cook R., Gilbert K.,
RA Aldredge T., Bashirzadeh R., Lumm W., Pothier B., Qiu D.,
RA Spadafora R., Vicare R., Wang Y., Wierzbowski J., Gibson R.,
If a Jiwani N., Caruso A., Bush D., Safer H., Patwell D., Prabhakar S.,
RA Jiwani N., Caruso A., Bush D., Safer H., Patwell D., Prabhakar S.,
RA Daniels C.J., Mao J.-I., Rice P., Noelling J., Reeve J N.,
T. Complete genome sequence of Methanobacterium thermoautotrophicum
deltali functional analysis and comparative genomics.",
GL Batteriol. 179:7135-7155(1997).
RC - FUNCTION: Involved in DNA repair and in homologous recombination.
CC May regulate the cleavage reactions of the branch-structured DNA.
CC Binds DNA but does not promote DNA strands exchange (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 6
Bacilius subtilis.
Bacteria; Firmicutes; Bacillus/Clostridium group;
Bacteria; Firmicutes; Bacillus/Clostridium group;
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PROSITE; PS50162; RECA_2; 1.
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HSSP; P03017; 2REB.
InterPro; IPR001553; RecA.
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SEQUENCE
Mesostigmatales; Mesostigmataceae; NCBI_TaxID=41882; [1]
                                               Chloroplast
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HSSP; P29132; 1DFI.
Subtilist; BG13152; fabl.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         regulation map for Bacillus subtilis,";
Electrophoresis 18:1451-1463(1997).
-!- CATALYTIC ACTIVITY: Acyl-lacyl-carrier protein] + NAD(+) -
2,3-dehydroacyl-[acyl-carrier protein] + NADH.
-!- PATHWAY: SECOND REDUCTIVE STEP IN FATTY ACID BIOSYNTHESIS.
                     Eukaryota; Viridiplantae; Streptophyta; Mesostigmatophyceae; Mesostigmatales; Mesostigmataceae; Mesostigma.
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Graumann P., Schroeder K., Schmid R.
"Cold shock stress induced proteins
J. Bacteriol. 178:4611-4619(1996).
                                                                Mesostigma
                                                                                        Probable
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PF00106; adh_short; 1.
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Chloroplast; Sulfate transport; Transport; Transport; Transmem
TRANSMEM 60 80 POTENTIAL.
TRANSMEM 92 112 POTENTIAL.
TRANSMEM 130 150 POTENTIAL.
TRANSMEM 130 150 POTENTIAL.
TRANSMEM 179 199 POTENTIAL.
TRANSMEM 208 228 POTENTIAL.
TRANSMEM 208 228 POTENTIAL.
TRANSMEM 240 260 POTENTIAL.
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                     SEQUENCE FROM N.A.

MEDIJINE-94292427; PubMed-8021188;
Chistoserdov A.Y., McIntire W.S., Mathews F.S., Lidstrom M.E.;
'Organization of the methylamine utilization (mau) genes in
'Organization methylotrophus W3A1-NS.";
J. Bacteriol. 176:4073-4080(1994).
-!- PATHMAY: METHYLAMINE UTILIZATION.
-!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
                                                                                                                                                                                                                                                         MAUF_METME
Q50230;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   use by non-profit institutions as long modified and this statement is not removed
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SIMILARITY: WITH
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een the Swiss Institute of Bioinformatics and the EN
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01-MAR-2002 (Rel. 41,
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SMART; SM0518; APZEC; 1.
PROSITE; PS00729; AP_NUCLEASE_F2_1;
PROSITE; PS00730; AP_NUCLEASE_F2_2;
PROSITE; PS00731; AP_NUCLEASE_F2_3;
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NCBI_TaxID=86665;
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NFO OR BH1386.
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Bacteria; Firmicutes; Bacillus/Clostridium group;
Bacteria; Firmicutes; Bacillus/Clostridium group;
                                                                                                                                                                                                                                                                                                         Foulger D., Errington J.;
Submitted (AUG-1997) to the EMBL/GenBank/DDBJ
-i- FUNCTION: NOT KNOWN, PROBABLY INVOLVED IN
PHOSPHOLIPID SYNTHESIS (BY SIMILARITY).
-i- SIMILARITY: BELONGS TO THE PLSX FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P71018; 034561;
01-NOV-1997 (Rel. 35, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                   Morbidoni H.R., de Mendoza D., Cronan J.

"Bacillus subtilis acyl carrier protein

lipid biosynthesis genes.";

J. Bacteriol. 178:4794-4800(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-168;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacillus/Staphylococcus group;
NCBI_TaxID-1423;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fatty acid/phospholipid synthesis
                                                                                                                                   EMBL; U59433; AAC44305.1; -.
EMBL; X13937; CAA74248.1; -.
EMBL; Z99112; CAB13462.1; -.
Subtilist; BG11843; plsx.
InterPro; IPR003664; FA_synthesis.
Pfam; PF02504; FA_synthesis; 1.
                                                                                                                                                                                                                                                                                      This
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                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 66-333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PLSX_BACSU
                                                                                                   Fatty acid biosynthesis;
CONFLICT 66 74
SEQUENCE 333 AA; 35763
                                                                                                                                                                                                                                       use by non-profit institutions as long modified and this statement is not removed
                                                                                                                                                                                                                   or send an email to license@isb-sib.ch).
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 DGFLLL
                    DGFLLL 7
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Phospholipid biosynthesis; Complete phosphoravrr -> MNRSVPCEA (IN REF. 3 MW; 2FB6A2E8A034199E CRC64;
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                                             Score 6; DB 1; Pred. No. 40; 0; Mismatches
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encoded in a cluster
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Best Local S
Matches 6
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P70295;
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrictuse by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and institutions are not used to be and institutions.
                                                                                                                                                                                                                                                                                               _CAEEL
AP47_CAEEL
                                                                                                                                                                            01-JUN-1994 (Rel. 29, Createw, 01-JUN-1994 (Rel. 29, Last sequence update) 01-JUN-1994 (Rel. 29, Last sequence update) 01-OCT-1994 (Rel. 30, Last annotation update) 01-OCT-1994 (Rel. 30, Last annotation Lathrin coat associated protein Clathrin coat assembly protein AP47 (Clathrin coat assembly protein) (HAI 47 kDa subunit) AP47) (Golgi adaptor AP-1 47 kDa protein) (HAI 47 kDa subunit) AP47) (Golgi adaptor AP-1 assembly protein complex 1 medium chain).
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SIGNAL
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Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence upd
16-OCT-2001 (Rel. 40, Last annotation u
Ancient ubiquitous protein 1 precursor.
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Jang W., Weber J.S., Bashir R., E
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01-JUN-1994
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -!- TISSUE SPECIFICITY: UBIQUITOUS.
-!- SIMILARITY: BELONGS TO THE AUP1 FAMILY.
Lee J., Jongeward G.D., Sternberg v.w.; "unc-101, a gene required for many aspects of Caenorhabditis development and behavior, encodes a clathrin-associated prote genes Dev. 8:60-73(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
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                                                 SEQUENCE FROM N.A.
STRAIN-BRISTOL N2;
MEDLINE-94116859; PubMed-8288128;
Lee J., Jongeward G.D., Sternberg P.W.;
                                                                                                                                        Eukaryota; Metazoa;
Rhabditidae; Pelode
                                                                                                                                                                   Caenorhabditis elegans.
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Rodentia;
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                                                                                                                                        Nematoda; Chromadorea;
rinae; Caenorhabditis.
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romosome 6 and human chromosome 2p13.";
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CRC64;
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097605;
097605;
16-0CT-2001 (Rel. 40, Last sequence update)
16-0CT-2001 (Rel. 40, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
Adaptor-related protein complex i mu 2 subunit (Clathrin coat assembly protein AP47 2) (Clathrin coat associated protein AP47 2)
(Golgi adaptor AP-1 47 kDa protein) (HA1 47 kDa subunit 2) (Clathrin assembly protein assembly protein assembly protein complex 1 medium chair 2) (AP-mu assembly momber mulb).
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1. SUBUNIT: ASSEMBLY PROTEIN COMPLEX I (AP-1) IS A HEZEROTETRAMER COMPOSED OF TWO LARGE CHAINS (GAMMA AND BETA'), A MEDIUM CHAIN (AP47) AND A SMALL CHAIN (AP19).

1. SUBCELLULAR LOCATION: COMPONENT OF THE COAT SURROUNDING THE CYTOPLASMIC FACE OF COATED VESICLES LOCATED AT THE GOLGI COMPLEX.

2. SUBJULARITY: BELONGS TO THE ADAPTOR COMPLEXES MEDIUM SUBUNITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR001392; Adap_comp_sub.
Pfam; PF00928; Adap_comp_sub: 1.
PRINTS; PR00314; CLATHRINADPT.
PROSITE; PS00990; CLAT_ADAPTOR_M_1;
PROSITE; PS00991; CLAT_ADAPTOR_M_2;
                                                                                                                                                                                                    MEDIINE-99268457; PubMed-10338135;
Ohno H., Tomemori T., Nakatsu F., Okazaki Y., Aguilar R.C.,
Foelseh H., Mellman I., Saito T., Shirasawa T., Bonifacino
"mulb, a novel adaptor medium chain expressed in polarized
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                        TISSUE-Placenta;
                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID-9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9 MDFGFP 14
S Lett. 449:215-220(1999).
FUNCTION: COMPONENT OF THE ADAPTOR COMPLEXES WHICH LINK CLATHRIN TO RECEPTORS IN COATED VESICLES. CLATHRIN-ASSOCIATED PROTEIN COMPLEXES ARE BELIEVED TO INTERACT WITH THE CYTOPLASMIC TAILS OF MEMBRANE PROTEINS. LEADING TO THEIR SELECTION AND CONCENTRATION. APA7 IS A SUBUNIT OF THE PLASMA MEMBRANE ADAPTOR.
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Primates;
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Pred. No.
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                                                                                                                                                                                                              J.S.;
epithelial
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Best Local
                                                                                                                                                                                                                                                                                                      FEBS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota;
Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AP1M2
      SEQUENCE FROM N.A
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PAIM2_MOUSE STANDARD; PRT; 423 AA.
09WvP1; 099LA4;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
Adaptor-related protein complex 1 mu 2 subunit (Clathrin coat assembly protein AP47 2) (Clathrin coat associated protein AP47 2)
(Golgl adaptor AP-1 47 KDa protein) (HAI 47 KDa subunit 2) (Clathrin assembly protein assembly protein assembly protein casembly protein complex 1 medium chain 2) (AP-mu chain family member mulB).
                                         EMBL, AF020797; AAD25870.2; ...
InterPro; IPR001392; Adap_comp_sub.
Pfam; PF09928; Adap_comp_sub; 1.
PRINTS; PR00314; CLATHRINADPTOR.
PROSTTE; PS00990; CLAT_ADAPTOR.M_1;
PROSTTE; PS00991; CLAT_ADAPTOR.M_2;
                                                                                                                                                                                                                                                                                          MEDLINE-99268457; PubMed-10338135;
Ohno H., Tomemori T., Nakatsu F.,
Foelsch H., Mellman I., Saito T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Coated pits; Phosphorylation. SEQUENCE 423 AA; 48108 MW; A3F6FDF8659DD6F7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                      clathrin-associated adaptor medium
(Aplm2) ";
                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. STRAIN-C57BL/6J;
                                                                                                                                             SEQUENCE FROM N.A. PubMed=10640811;
                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse)
                                                                                                                                                                                                                                                      "MulB, a novel
cells.";
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SUBCELLULAR LOCATION: COMPONENT OF THE COAT SURROUNDING TO CYTOPLASMIC FACE OF COATED VESICLES LOCATED AT THE GOLGIPM: AUTOPHOSPHORYLATED (POTENTIAL).
SINILARITY: BELONGS TO THE ADAPTOR COMPLEXES MEDIUM SUBUN FAMILY.
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  Cell Genet.
                                                                                                                                                                                                                       449:215-220(1999)
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Rodentla;
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87:53-58(1999)
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Pred. No.
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Shirasawa T., Bonifacino
in expressed in polarized
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There are no restrictions
ong as its content is in
                                                                                                                         Jenkins N.A., Kakuta
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                                                 ₽ C
                                               the genes encoding 
lA (Apimi) and mu
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), A MEDIUM CHAIN
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2) (AP-mu
                                                                                                                                                                                                                                                                      J.S.;
epithelial
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Best Local
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Q92441;
Q92441;
15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
15-JUL-1999 (Rel. 38, Last annotation update)
15-JUL-199 (Rel. 38, Last annotation update)
16-JUL-199 (Rel. 36, Created)
16-JUL-199 (Rel. 36, Last sequence update)
16-JUL-199 (Rel. 36, La
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce or send an email to license@isb-sib.ch).
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PRINTS; PR00314; CLATHRINADFI.
PROSITE; PS00990; CLAT_ADAPTOR_M_1;
PROSITE; PS00991; CLAT_ADAPTOR_M_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -
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""" Fungi; Ascomycota; Saccharomycotina; Saccharomycotales; Saccharomycetales; Kluyveromyces NCBI_TaxID=28985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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CONFLICT 112 112 D
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              118 MDFGFP 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9 MDFGFP 14
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SUBUNITY: ASSEMBLY PROTEIN COMPLEX 1 (AP-1) IS A HETEROTETRAMER COMPOSED OF TWO LARGE CHAINS (GAMMA AND BETA'), A MEDIUM CHAIN (AP49) AND A SMALL CHAIN (AP19).

SUBCELLULAR LOCATION: COMPONENT OF THE COAT SURROUNDING THE CYTOPLASMIC PACE OF COATED VESICLES LOCATED AT THE GOLGI COMPLEY SUBCELLULATED (POTENTIAL).

SIMILARITY: BELONGS TO THE ADAPTOR COMPLEXES MEDIUM SUBUNITS SIMILARITY: BELONGS TO THE ADAPTOR COMPLEXES MEDIUM SUBUNITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.
FUNCTION: COMPONENT OF THE ADAPTOR COMPLEXES WHICH LINK CLATHRIN TO RECEPTORS IN COATED VESTCLES. CLATHRIN-ASSOCIATED PROTEIN COMPLEXES ARE BELIEVED TO INTERACT WITH THE CYTOPLASMIC TAILS OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FAMILY
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6; Conser
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Pred. No.
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FD18049309F074B5 CRC64;
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                                                                                           Saccharomycetes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
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Best Local S
Matches
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01-NOV-1997
01-NOV-1997
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LEF9_NPVOP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --
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Submitted (SEP-1996) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: TRANSFORMS O-ACETYLHOMOSERINE INTO HOMOCYSTEINE AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        [1]
SEQUENCE FROM N.A.
STRAIN=WM27;
                                                                                                                                                                                          Orgyia pseudotsugata multicapsid polyhedrosis virus (OPMNPV). Viruses; dsDNA viruses, no RNA stage; Baculoviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam: PP01053; Cys_Met_Meta_PP; 1.
Pfam: PS00868; Cvs_MET_METAB_PP; 1.
Methionine biosynthesis; Cysteine biosynthesis; Lyase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; U72486; AAB17387.1; -. HSSP; P00935; 1CS1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entities requires a license agreement (See http://www.isb-slb.ch/announce/or send an email to license@isb-sib.ch).
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                                              polyhedrosis virus genome.
Virology 229:381-399(1997)
-i- FUNCTION: INVOLVED IN
                                                                                                                       SEQUENCE FROM N.A. MEDLINE=97271300; PubMed=9126251;
                                                                                                                                                                                                                     LEF-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pyridoxal phosphate: Multifunctional enzyme.
INIT_MET 0 0 BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <del>'</del>
                                                                                                  Rohrmann G.F.;
                                                                                                                                                              NCBI_TaxID=164623;
                                                                                                                                                                                                                               Late expression factor
                                                                                                                Ahrens C.H.,
                                                                                                                                                                             Nucleopolyhedrovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                     The sequence of the Orgyia
                                                                                                                                                                                                                                                                                                                                                              280 GFLLLO
                                                                                                                                                                                                                                                                                                                                                                                      3 GFLLLO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUBUNIT: HOMOTETRAMER (BY SIMILARITY).
SUBCELLULAR LOCATION: Cytoplasmic (By similarity).
SIMILARITY: BELONGS TO THE TRANS-SULFURATION ENZYMES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COFACTOR: PYRIDOXAL PHOSPHATE.
PATHMAY: FIFTH STEP IN THE SULFATE ASSIMILATION PATHMAY
LEADS TO THE BICSYNTHESIS OF METHLONINE AND CYSTEINE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                O-ACETYLSERINE INTO CYSTEINE.
CATALYTIC ACTIVITY: O-acety1-L-homoserine + methanethiol - L-methionine + acetate.
CATALYTIC ACTIVITY: O3-acety1-L-serine + H(2)S - L-cysteine +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    acetate.
                                    SIMILARITY).
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6; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              207
                                                                                                                                                                                                                                           7 (Rel. 35,
7 (Rel. 35,
7 (Rel. 35,
                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                Russell R.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AA.
                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           207
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                                                                                                                Funk C.J.,
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Pred. No.
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01-NOV-1990 (Rel. 16, Last sequence update)
01-NAR-2002 (Rel. 41, Last annotation update)
Alpha-2-entiplasmin precursor (Alpha-2-plasmin inhibitor) (Alpha-2-PI)
  Collen D.;
"Amino-acid sequence of human alpha 2-antiplasmin.";
Eur. J. Biochem. 166:565-574(1987).
[7]
                                                                                                                                          SEQUENCE OF 218-491 FROM M.A.
MEDLINE-87137400; pubMed-3818581;
Sumi Y., Nakamura Y., Aoki N., Sakai M., Muramatsu M.;
'Structure of the carboxyl-terminal half of human alpha
inhibitor deduced from that of cDNA.";
J. Blochem. 100:1399-1402(1986).
                                                                                                                                                                                                                                                                                 SEQUENCE OF 4-491 FROM N.A.
MEDLINE-87109313; PubMed-2433286;
HOlmes W.E., Nelles L., Lijnen H.R.,
"Primary structure of human alpha 2-
inhibitor (gerpin).";
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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MEDLINE-07275946; PubMed-2440681;

Lijnen H.R., Holmes W.E., van Hoe

Collen D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hirosawa S., Nakamura Y., Miura O., Sumi Y., Aoki N., 
"Organization of the human alpha 2:plasmin inhibitor 
proc. Natl. Acad. Sci. U.S.A. 85:6856-6640(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
MEDLINE-88139254; PubMed-2830248;
TONE M., Kidno R., Kume-Twaki A., H
"Structure of human alpha 2-plasmin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A2AP_HUMAN
P08697;
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MEDLINE-88320531; PubMed-3166140;
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ilarity 100.0%;
Conservative
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Catarrhini;
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      EMBL; D00116; BAA00070.1; --
EMBL; M00174; BAA01124.1; --
EMBL; M20786; AAA51554.1; J
EMBL; M20782; AAA51554.1; J
EMBL; M20783; AAA51554.1; J
EMBL; M20784; AAA51554.1; J
EMBL; M20785; AAA51554.1; J
EMBL; M20785; AAA51554.1; J
EMBL; M20786; AAA51554.1; J
EMBL; M20786; AAA51554.1; J
EMBL; M20786; AAA51554.1; J
EMBL; A1078; A24708; A24708
PIR; A24708; A24708
PIR; A31402; A31402
PIR; A31402; A3163; A31
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"Purification and characterization of human fast-acting plasmin inhibitor in plasma.";
Eur. J. Biochem. 78:19-26(1977).
[8]
                  CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HORTIN G., FOK K.F., Toren P.C., Strauss A.W.;

"Sulfation of a tyrosine residue in the plasmin-binding
alpha 2-antiplasmin.";

J. Biol. Chem. 262:3082-3085(1987).

1- FUNCTION: THE MAJOR TARGETS OF THIS INHIBITOR ARE PL
TRYPSIN. BUT IT ALSO INACTIVATES CHYMOTRYPSIN.

1- SIMILARITY: BELONGS TO THE SERPIN FAMILY.
                                                                                      ACT_SITE
ACT_SITE
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                                                                                                                                                                                                Serpin; Se
Sulfation.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-Plasma;
MEDLINE-93050153;
                                                                                                                                                                                                                                               InterPro; IPR000215; Serpin.
Pfam; PF00079; Serpin; 1.
SMART; SM00093; SERPIN; 1.
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SWISS-2DPAGE; P08697; HUMAN
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Potempa J., Shieh B.-H., Travis J
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MEDLINE=78023887; PubMed=21075;
                                                                       CARBOHYD
                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                       MIM; 262850;
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AAA51554.1; JOINED.

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      protease inhibitor; Glycoprotein; Plasma; Signal;
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                                                                                                                                                                                                                                     SERPIN;
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ALPHA-2-ANTIPLASMIN,
REACTIVE BOND (FOR PLASH
REACTIVE BOND (FOR CHYMO
SULFANTION.
N-LINKED (GLCNAC...) (
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(FOR CHYMOTRYPSIN).
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Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CPDE_CANFA STANDARD; PRT; 499 AA. 029473; 002859; 01-NOV-1997 (Rel. 35, Created) 01-NOV-1997 (Rel. 35, Last sequence update) 15-DEC-1998 (Rel. 37, Last annotation update) Cytochrome P450 2D15 (EC 1.14.14.1) (CYPIID15)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-95305574; PubMed-7786018;
Sakamoto K., Kirita S., Baba T., Nakamura Y., Yamazoe Y.,
Yakanaka A., Matsubara T.;
'A new cytochrome P450 form belonging to the CYP2D in dog
microsomes; purification, CDNA cloning, and enzyme
characterization.';
                                                                                                                                                                                                                                                                                                            "Expression and characterization of canine cytochrome P450 2D15.";
Arch. Biochem. Biophys. 357:27-36(1998).
-i- FUNCTION: HIGH ACTIVITY FOR THE HYDROXYLATION OF BUNITROLOL AN
IMPRAMINE: LOW ACTIVITY ON DEBRISOQUINE.
-i- CATALYTIC ACTIVITY: RH + reduced flavoprotein + O(2) = ROH +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tasaki T., Nakamura A., Itoh S., Ohashi K., Yamamoto Y., Masuda M. Iwata H., Kazusaka A., Kamataki T., Fujita S.; "Expression and characterization of dog CYP2D15 using baculovirus expression system.";
                                       use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch)
                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHARACTERIZATION: MEDLINE=98389575; PubMed=9721180;
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                                                                                                                                                                                                                   oxidized flavoprotein + H(2)O.
SUBCELLULAR LOCATION: Membrane-bound. Endoplasmic reticulum.
TISSUE SPECIFICITY: LIVER. ALSO DETECTED IN SEVERAL OTHER TISSUES.
SIMILARITY: BELONGS TO THE CYTOCHROME P450 FAMILY.
    D17397;
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                                                                   (See http://www.isb-sib.ch/announce/
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RESULT 34
HCYF_EURCA
ID HCYF_EURCA
AC Q9NFL5;
DT 01.MAR-2002
DT 01.MAR-2002
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Best Local
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01-NOV-1995
01-NOV-1995
01-NOV-1997
                                                                                                                                                                                                                EMBL; L22858; AAA66692.1; -. Transcription regulation. SEQUENCE 516 AA; 59305 MW
                                                                                                                                                                                                                                                              the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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01-NOV-1995 (Rel. 32, I
01-NOV-1997 (Rel. 35, I
Late expression factor
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BINDING 445 445 HEME (BY SIMILARITY).
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Pfam; PF00067; p450; 1.
PRINTS; PR00385; P450.
PROSITE; PS00086; CYTOCHROME_P450;
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                                                                                                                                                                                                                                                                                                                                                                               polyhedrosis virus.";
Virology 202:586-605(1994).
                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-94303173; PubMed-8030224;
Ayres M.D., Howard S.C., Kuzio J., Lopez-Ferber M., Possee R
"The complete DNA sequence of Autographa californica nuclear
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(Rel. 41, Last sequence update)
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56301 MW;
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100.08; Pr
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, no RNA stage; Baculoviridae;
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RESULT 35
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ID ORC3_MOUSE
AC Q9JK30;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00209; HEMOCYANIN_1; PROSITE; PS00210; HEMOCYANIN_2; PROSITE; PS00498; TYROSINASE_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR00187; HAEMOCYAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Voit R., Feldmaier-Fuchs G., Schweikardt T., Decker H., Burme Complete sequence of the 24-mer hemocyanin of the tarantula californicum. Structure and intramolecular evolution of the
                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                        METAL
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NCBI_TaxID=29932;
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                                                                                                                            536
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- FUNCTION: HEMOCYANIN ARE COPPER-CONTAINING OXYGEN CARRIERS OCCURRING FREELY DISSOLVED IN THE HEMOLYMPH OF MANY MOLLUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DIFFERENT CHAINS IDENTIFIED.
SUBCELLAULAR LOCATION: Extracellular.
MISCELLAUROUS: THE TWO COPPER IONS BOUND EACH HAVE 3 NIT MISCELLAUROUS: THE TWO COPPER IONS HIS RESIDUES) AND SHA LIGANDS (PRESUMABLY CONTRIBUTED BY HIS RESIDUES) AND SHA BRIDGING LIGAND (POSSIBLY CONTRIBUTED BY A TYR RESIDUE) ADDITION TO BINDING OXYCEN.
SIMILARITY: BELONGS TO THE TYROSINASE FAMILY. HEMOCYANIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUBUNIT: TARANTULA HEMOCYANIN IS A 24-CHAIN
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Metazoa; Arthropoda; Chelicera
hae; Theraphosidae; Aphonopelma
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                                                                                                                                                                                                           Conservative
                    STANDARD;
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BELONGS TO THE TYROSINASE FAMILY. HEMOCYANIN
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Chelicerata;
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IN STANDARD; PRT; 892 AA.

AC P49731; Q9P7R7;
DT 16-OCT-1996 (Rel. 34, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2010 (Rel. 40, Last sequence update)
DT 16-OCT-2011 
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16-OCT-2001 (Rel. 40, 1
16-OCT-2001 (Rel. 40, 1
Origin recognition comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       member of the mouse origin recognition complex.";

Cytogenet. Cell Genet. 87:245-251(1999),

FUNCTION: COMPONENT OF THE ORIGIN RECOGNITION COMPLEX (ORC) THAT BINDS ORIGINS OF REPLICATION. IT HAS A ROLE IN BOTH CHROMOSOMAL REPLICATION AND MATING TYPE TRANSCRIPTIONAL SILENCING. BINDS TO THE ARS CONSENSUS SEQUENCE (ACS) OF ORIGINS OF REPLICATION IN AN ATP-DEPENDENT MANNER.

SUBUNIT: ORC IS COMPOSED OF SIX SUBUNITS (BY SIMILARITY).

SUBCELLULAR LOCATION: Nuclear.

SUBCELLULAR LOCATION: Nuclear.
SEQUENCE FROM STRAIN-972;
                                                                                           "Fission yeast minichromosome loss mutants aneuploidy and replication abnormality."; mol. Biol. Cell 5:1145-1158(1994).
                                                                                                                                                                                                                 SEQUENCE FROM N.A.
MEDLINE-95170112; PubMed-7865880;
Takahashi K., Yamada H., Yanagida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AJ132830; CAB76399.1; -.
MGD; MGI:1354944; Orc3.
DNA replication; Nuclear protein; DNA-binding.
SEQUENCE 715 AA; 82341 MW; 1E915A719A2E33EB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its most profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                    Schizosaccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
MEDLINE-20169198; PubMed-10702581;
Springer J., Nanda I., Hoehn K., Schmid M., Grummt
"Identification and chromosomal localization of mur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Subunit Latheo)
ORC3L OR ORC3.
                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=4896;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus (Mouse)
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40, Last annotation update)
complex subunit 3 (Origin
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Rodentia;
                                                                                                                                                                                                                 H., Yanagida M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sciurognathi;
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thi; Muridae; Murinae; Mus
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Matches
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Best Local Similarity
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NP_BIND
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collable between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in
Submitted (OCT-1995) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: PLAYS A MAJOR ROLE IN CELL WALL BIOGENESIS.
-!- CATALYTIC ACTIVITY: UDP-N-acetyl-D-glucosamine + {(1,4)-(N-acetyl-beta-D-glucosaminyl)}(N) = UDP + {(1,4)-(N-acetyl-beta-D-glucosaminyl)}(N+1).
-!- SUBCELLULAR LOCATION: Plasma membrane-bound.
-!- SIMILARITY: BELONGS TO THE CHITIN SYNTHASE FAMILY. SUBFAMILY CLASS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or send an
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PROSITE; PS50051; MCM_2; 1.

Transcription regulation; DNA-binding; Nu
DNA replication; Cell cycle; ATP-binding.
DNAIN
426 633
MCM.
DOWAIN
476 483
ATP (POTENTI
NP_BIND
476 483
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                                                                                                                                     Borgia P.T., Iartchouk N., Riggle P.J., Winter K.R., Bulawa C.E.;
                                                                                                                                                                                                                                      Mellado E., Aufauvre-Brown A., Gow N.A.R., Holden D.W.;
"The Aspergillus fumigatus chsC and chsG genes encode chitin synthases with different functions.";
                                                                                                                                                                                                                                                                                                                                                                          Aspergillus fumigatus (Sartorya fumigata).
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Aspergillus
                                                                                                                                                                                                                                                                                                                                                                                                                                        01-0CT-1996 (Rel. 34, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
Chitin synthase G (EC 2.4.1.16) (Chitin-UDP acctyl-glucosaminyl transferase G) (Class-III chitin synthase G).
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01-OCT-1996 (Rel. 34, C
15-JUL-1999 (Rel. 38, L
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Pfam; PF00493; MCM; 1.
                                                                                                                                                                        STRAIN-SIU001;
                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                           MEDLINE-96347138; PubMed-8736545;
                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
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100.0%;
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Pred. No.
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MBL outstation .
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                                                                                     MICROBIOLOGY 143:3877-3888(1997).

-!- FUNCTION: THE PLASMA MEMBRANE ATPASE IS A HYDROGEN ION PUMP. THE PROTON GRADIENT IT GENERATES BY HE ACTIVE TRANSPORT OF NUTRIENTS BY H+- SYMPORT. THE RESULTING EXTERNAL ACIDIFICATION AND/OR INTERNAL ALKINIZATION MAY MEDIATE GROWTH RESPONSES.

-!- CATALYTIC ACTIVITY: ATP + H(2)O + H(+)(IN) = ADP + PHOSPHATE + INTERNAL ACIDIFICATION MAY MEDIATE GROWTH RESPONSES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF01644; Chitin_synth; 1.
ProDom; PD002998; Chitin_synth; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       modified and this statement is not removed.
                                                                                                                                                                     Coukell M.B., Moniakis J., Cameron A.M.;
"The patB gene of Dictyostelium discoldeum encodes a P-type H(+)-
ATPase isoform essential for growth and development under acidic
                                                                                                                                                                                                                                                                                                                  01-OCT-1996
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                 PMA1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                               conditions.";
                                                                                                                                                                                                            MEDLINE-98083743; PubMed-9421912;
                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                        NCBI_TaxID=44689;
                                                                                                                                                                                                                                                                    Eukaryota; Mycetozoa;
                                                                                                                                                                                                                                                                                 Dictyostelium discoideum (Slime mold).
                                                                                                                                                                                                                                                                                                     Probable plasma membrane
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                                                      SUBCELLULAR LOCATION: Integral membrane protein SIMILARITY: BELONGS TO THE CATION TRANSPORT ATPA
                                           (E1-E2 ATPASES). SUBFAMILY IIIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 X94244; CAA63928.1;
U39478; AAB07678.1;
U39479; AAB07679.1;
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I; BC893F8BA00BE48D CRC64;
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InterPro; IPR004014; Cation_ATPase.
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InterPro; IPR001695; HATPase.
Pfam; PF00120; E1-E2_ATPase; 1.
Pfam; PF00122; E1-E2_ATPase; 1.
Pfam; PF00122; Hydrolase; 1.
                          Eukaryota; Fungi; ; Saccharomycetales; NCBI_TaxID=4932;
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SEQUENCE
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PRINTS; PR00120; HATPASE.
PROSITE; PS00154; ATPASE_E1_E2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                 ase: Hydrogen ion transport; Transmembrane; Phosphorylation; ium; ATP-binding.

EM 213 23; CYTOPLASMIC (POTENTIAL).

EM 233 237 EXTRACELLULAR (POTENTIAL).

EM 238 258 POTENTIAL.

EM 259 387 CYTOPLASMIC (POTENTIAL).

EM 264 447 EXTRACELLULAR (POTENTIAL).

EM 426 447 POTENTIAL.

EM 426 447 POTENTIAL.

EM 426 480 POTENTIAL.

EM 427 POTENTIAL.

EM 428 POTENTIAL.

EM 428 POTENTIAL.

EM 429 POTENTIAL.

EM 810 B3 POTENTIAL.

EM 811 B3 POTENTIAL.

EM 850 870 POTENTIAL.

EM 851 B3 POTENTIAL.

EM 850 POTENTIAL.

EM 960 POTENTIAL.

EM 961 POTENTIAL.

EM 962 POTENTIAL.

EM 963 POTENTIAL.

EM 963 POTENTIAL.

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EM 968 POTENTIAL.

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EM 960 POTENTIAL.

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Matches
                                                                                                                                                                  Wilson R., Ainscough R., Anderson K., Baynes C., Berks M.,
Bonfield J., Burton J., Connell M., Copsey T., Cooper J., Cooper Craxton M., Dear S., Du Z., Durbin R., Favello A., Fraser A.,
Fulton L., Gardner A., Green P., Hawkins T., Hillier L., Jier M.,
Johnston L., Jones M., Kershaw J., Kirsten J., Laisster N.,
Latreille P., Lightning J., Lloyd C., Morttmore B., O'Callaghan M
Parsons J., Percy C., Rifken L., Roopra A., Sannders D., Shownkear
Sims M., Smaldon N., Smith A., Smith M., Sonnhammer E., Staden R.,
Sulston J., Thierry-Mieg J., Thomas K., Vaudin M., Vaughan K.,
Watterston R., Watson A., Weinstock L., Wilkinson-Sproat J.,
Calling R., Watson A., Weinstock L., Wilkinson-Sproat J.,
REVISIONS.

Durbin R.;

Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases.

-!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; K04H4.2A (SHOWN HERE)

K04H4.2B; ARE PROBABLY PRODUCED BY ALTERNATIVE SPLICING
                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Nematoda; Chromadorea Rhabditidae; Peloderinae; Caenorhabditis. NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YMV2_CAEEL STANDARD; PRT: 1246 AA. P34504; P34505; P34506; P90907; P3FEB-1994 (Rel. 26 Created)
30-MAY-2000 (Rel. 39, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
Hypothetical 130.6 kDa protein K04H4.2 in chromosome III.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Dietrich F.S., Mulligan J.T., Hennessey K.M., Allen E., Araujo Aviles E., Berno A., Brennan T., Carpenter J., Chen E., Charry Chung E., Duncan M., Guzman E., Hartzell G., Hunicke-Smith S., Hyman R., Kayser A., Komp C., Lashkari D., Lew H., Lin D., Mosedale D., Nakahara K., Namath A., Norgren R., Oefner P., Oh Petel F.X., Roberts D., Sehl P., Schramm S., Shogren T., Smith Taylor P., Wei Y., Yelton M., Botslein D., Davis R.W.; Submitted (DEC-1994) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                      STRAIN-BRISTOL N2;
MEDLINE-94150718; PubMed-7906398;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hypothetical protein; Transmembrane.
TRANSMEM 73 93 POTENTIAL.
TRANSMEM 878 898 POTENTIAL.
TRANSMEM 1089 1109 POTENTIAL.
SEQUENCE 1188 AA; 136068 MW; 82C3F0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                Caenorhabditis elegans
                                                                                                          Nature
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Dietrich F.S., Mulligan J.T., Hennessey K.M., Allen
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01-NOV-1991 (Rel. 20, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
15-DEC-1998 (Rel. 37, Last annotation update)
17anscription initiation protein SPT6.
SPT6 OR SSN20 OR CRE2 OR YGR16W OR G6169.
Saccharomyces cerevisiae (Baker's Yeast).
Saccharomyces cerevisiae (Baker's Yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
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PIR;
                                                                                            Swanson M.S., Carlson M., Winston F., *SPT6, an essential gene that affects cerevisiae, encodes a nuclear protein
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                        Mol.
                                                                                                                                                                   SEQUENCE FROM N.A.
MEDLINE=90356011; Pubmed=2201908;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    P23615;
01-NOV-1991
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SMART; SM00289; WR1; 14
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or send an email to license@isb-sib.ch).
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SEQUENCE FROM N.A
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S40992; S40992;
S40993; S40994;
S40994; S40994; S40994;
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                                                   Cell.
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                                                 Biol. 10:4935-4941(1990)
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166 529
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1 TPTPTRTTEPPKLRCLSSNTDEVNSLGGASSSSATCGGTN

ANCTSDEDCPTPKCYQGCCKLAVCPRSLTAVKFTCKTQYH

CRANEHCFFGGCCPKTIELAVIKSOVLTMSKDNEHTKETEK
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W; 4FA1A17D3F9606C4 CRC64;
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SASNHDHCPSSSHKCTLLNKEHFACCYSPGLVVEGSVTAEV
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GNGLMALSIPVHCSLSDDCPIASRCEYGKCCPFLSESADST
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                                                                                                  with an extremely acidic amino
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1.3e+02;
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YN37_YEAST
ID YN37_YEAST
ID YN37_YEAST
AC P48563;
DT 01-FEB-1996
DT 01-FEB-1996
DT 30-MAY 2000
DE Hypothetica
GN YNL297C OR 1
OS Saccharomyci
OC Eukaryota;
OC Saccharomyci
OX NCBI_TaxiD-
RP SEQUENCE FR
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Best Local S
Matches 6
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EMBL; Z72899; CAA97124.1; --
EMBL; Z72902; CAA97127.1; --
PIR; A36468; A36468.
SGD; S0003348; SPP6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBI the European Bioinformatics Institute. There are no restric use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fontifies requires a license agreement (See http://www.isb-sib-cntifies requires a license agreement (See http://www.isb-sib-sib-cntifies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Trends Biochem. Sci. 18:464-465(1993).
-- FUNCTION: IMPORTANT FOR TRANSCRIPTION INITIATION. THE SPT4/5/6
-- COMPLEX IS REQUIRED FOR TRANSCRIPTION INITIATION. IT MAY NORMALLY ACT TO REPRESS TRANSCRIPTION AT A VARIETY OF LOCI, AND ALSO PLAYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hansen M., Albers M., Backes U., Coblenz A., Leuther H., Neu R., Schreer A., Schaefer B., Ziumermann M., Wolf K.; Schreer of a 23.4 kb segment on the right arm of chromosome from Saccharomyces cerevislae reveals CLB6, SP76, RP28A and NUP57 genes, a Ty3 element and 11 new open reading frames."; Yeast 12:1273-1277(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
DOMAIN
                                                                              Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
                                                                                                                                                                                      01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
Hypothetical 186.8 kDa protein in CLA4-PUS4 i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
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Pfam; PF00017; SH2; 1.

SMART; SM00252; SH2; 1.

PROSITE; PS50001; SH2; 1.
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     SEQUENCE FROM N.A
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SUBUNIT: COMPLEX OF SP74, SP75 AND SP76.
SUBCELLULAR LOCATION: Nuclear.
SIMILARITY: CONTAINS 1 SH2 DOMAIN.
SIMILARITY: TO YEAST SP75 AND C.ELEGANS EMB-5.
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6; Conserv
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SH2 domain."
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Pred. No.
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NUCLEAR LOCALIZATION S
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NUCLEAR LOCALIZATION S
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hes 0;
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Matches 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Sequence analysis of a 30 kb DNA segment from yeast chromosome XIV carrying a ribosomal protein gene cluster, the genes encoding a plasma membrane protein and a subunit of replication factor C, and rovel putative serine/threonine protein kinase gene.";

Yeast 11:1303-1310(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P141413; 062914;
01-NOV-1995 (Rel. 32, Created)
16-CCT-2001 (Rel. 40, Last sequence update)
16-CCT-2001 (Rel. 40, Last amoutation update)
Proprotein convertase subtilisin/kexin type 5 precursor (EC (Proprotein convertase PC5) (Subtilisin/kexin-like protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL: U23084; AAC49101.1; -.
EMBL: Z71573; CAA96214.1; -.
SGD; S0005241; VNL297C.
Hypothetical protein.
SEQUENCE 1636 AA; 186834
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
NCBI_TaxID-10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This
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                                                     MEDLINE=20214819; PubMed=10749928;
Xlang Y., Molloy S.S., Thomas L., Thomas G.;
"The PC6B cytoplasmic domain contains two acidic clusters that sorting to distinct trans-Golgi network/endosomal compartments. Mol. Biol. Cell 11:1257-1273(2000).
                                                                                                                                                    SUBCELLULAR LOCATION
                                                                                                                                                                                  Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                     TISSUE-Adrenal gland;
De Bie I., Marcinkiewicz M., Nakayama K., Lazure C.,
                                                                                                                                                                                                                                                                                                         nonendocrine cells.";
                                                                                                                                                                                                                                                                                                                        candidate proprotein convertase expressed in
                                                                                                                                                                                                                                                                                                                                             Lusson J., Vieau D., Hamelin J., Day R., Chretien M., Seide "CDNA structure of the mouse and rat subtiligin/kexin-like
                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE-93342056;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus norvegicus
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  MEDLINE-97166043;
                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                   DEVELOPMENTAL
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les 6; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: SOME, TO S.POMBE SPAC23D3.13C.
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                   EXPRESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Rat)
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                                                                                                                                                                                                                                                                                                                                                                                                                       (SHORT ISOFORM),
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                      90:6691-6695(1993)
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                                                                                                                                                                                                                                                                                                                                                                                                                       AND TISSUE-SPECIFICITY
                                                                            two acidic clusters that direct
rk/endosomal compartments.";
                                                                                                                                                                                                                                                  ISOFORM
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1.7e+02;
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                                                                                                                                                                                                                                                                                                                          endocrine and
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PC5)
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THE RESERVE TO BE A THE RE
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                                    Transmembrane.
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Zheng M., Seldah N.G., Pintar J.E.;
"The developmental expression in the rat CNS and peripheral tissues
proteases PC5 and PACE4 mRNAs: comparison with other proprotein
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TI PROCESSING ENZYMES.".

L DEV. BIOL. 181:268-283(1997).

LD DEV. BIOL. 181:268-283(1997).

C -- FUNCTION. LIXELY TO REPRESENT A WIDESPREAD ENDOPROTEASE ACTIVITY WITHIN THE CONSTITUTIVE AND REGULATED SECRETORY PATHWAY. CAPABLE OF CLEAVAGE AT THE RX(K/R)R CONSENSUS MOTIF. MAY BE RESPONSIBLE OF THE MATURATION OF GASTIVAL PETPIDES. MAY BE INVOLVED IN THE CELLULAR PROLIFERATION OF ADRENAL CORTEX VIA THE ACTIVATION OF GROWTH FACTORS.

C OF GROWTH FACTORS.

C -- CAPALYTIC ACTIVITY: RELEASE OF MATURE PROTEINS FROM THEIR PROPROTEINS BY CLEAVAGE OF ARG-XAA-YAA-ARG-|-ZAA BONDS, WHERE XAA CAN BE ANY MAINO ACID AND YAA IS ARG OR LYS.

C -- SUBCELLULAR LOCATION: PCSA IS SECRETED THROUGH THE REGULATED TO SECRETORY PATHWAY. PCSB IS A TYPE I MEMBRANE PROTEIN LOCALIZED TO A PARANUCLEAR POST-GOLGI NETWORK COMPARTMENT IN COMMUNICATION WITH CALTENATURE PRODUCTS: AT LEAST 2 ISOFORMS; PCSB/LONG (SHOWN HERE)

ALTERNATIVE PRODUCTS: AT LEAST 2 ISOFORMS; PCSB/LONG (SHOWN HERE)

AND PCSA/SHORT; ARE PRODUCED BY ALTERNATIVE SPLICING.

1 TISSUE SPECIFICITY: EXPRESSED IN THE INTESTINE, BRAIN, ADRENAL GLAND, ANTERIOR PITUITARY, THYROID, OVARIES, TESTIS AND LUNG.

HIGHEST LEVELS ARE FOUND IN THE GUT, DUODENUM, JEJUNUM AND ILEUM. EXPRESSION IS HIGHER IN FEMALE THAN IN MALE REPRODUCTIVE ORGANS.

1 DEVELOPMENTAL STAGE: ETRST DETECTED AT E9 IN HIGHLY RESTRICTED REGIONS OF THE NEURAL TUBE, IN CAUDAL MYOTOMES, AND AT THE MATERNO-EMBRYONIC JUNCTION OF THE UTERUS. AT E10, RESTRICTED EXPRESSION IS DETECTED IN THE OPTIC AND OTIC VESTICLES, THE ROOF OF MIDBRAIN, AND TRUNK MYOTOMES. BY MIDGESTATION (E13-E16), PEXPRESSION IS DETECTED IN THE DEVELOPING HIPPOCAMBUS, THALAMUS, HYPOTHALAMUS, BRAIN STEM, AND SPINAL CORD, EXPRESSION IS ANDERNIA AND EXPRESSION IS DEPENDENT OF THE DEVELOPING HIPPOCAMBUS, THALAMUS, HYPOTHALAMUS, BRAIN STEM, AND SPINAL CORD, EXPRESSION IS ALSO DETECTED IN SEVERAL PERIPHERAL ORGAN SYSTEMS, INCLUDING GUT, LUNG, ADRENAL AND õ

KYDNEY PRIMORDIA.

KYDNEY PRIMORDIA.

KYDNEY PRIMORDIA.

CHAPERONE

ASSISTING THE POLDING OF THE ZYMOGEN WITHIN THE ENDOPLASMIC

RETICULUM.

CONTAIN

CONTAIN

CONTAIN

SORTING INFORMATION. AC 1 DIRECTS TGN LOCALIZATION AND INTERACTS

SORTING INFORMATION. AC 1 DIRECTS TGN LOCALIZATION AND INTERACTS

SORTING THE TGN SORTING PROTEIN PACS-1.

SIMILARITY: BELONGS TO PEPTIDASE FAMILY SB; ALSO KNOWN AS THE

SUBTILARITY: CONTAINS 1 HOMO B/P DOMAIN.

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Pfam; PF01483; P; 1.
Pfam; PF00082; Peptidase_S8; 1.
PRINTS; PR00723; SUBTILISIN.
ProDom; PD000717; P_domain; 1.
SMART; SM00281; FU; 6.
PROSITE; PS00136; SUBTILASE_ASP; PROSITE; PS00137; SUBTILASE_HIS; PROSITE; PS00138; SUBTILASE_SER;
                                                nydromase; Serine protease;
Cleavage on pair of basic re
                                                                                                                                                                                                                                          InterPro: IPR002174; Furin-like.
InterPro: IPR002884; P_domain.
InterPro: IPR000209; Peptidase_S8.
                                                                                                                                                                                                                                                                                                                                                               EMBL; L14933; AAA99906.1; ... EMBL; U47014; AAA87888.1; ...
                                                                                                                                                                                                                                                                                                                                         PIR; B48225; B48225.
                                                                                                                                                                                                                                                                                                                          IMPT.
                                                                                       SUBTILASE_ASP; 1
SUBTILASE_HIS; 1
SUBTILASE_SER; 1
34
116
                                                     residues; Alternative sp
ВY
YB
SIMILARITY SIMILARITY
                                                     splicing;
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Best Local
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Q04956;
30-MAY-2000
                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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SEQUENCE
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Eukaryota; Alveolata;
NCBI_TaxID=5833;
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                                                                                                                                                                  MEDLINE-93132070;
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                                                                                                                                                                                                                                                                     "A family of cation ATPase-like molecules
                                                                                                                                                                                                                                                                                        Krishna S., Cowan
                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence up
16-CCT-2001 (Rel. 40, Last annotation
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 x65738;
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6; Conserv
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ilarity 100.0%
Conservative
 CAA46646.1;
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AA; 2
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G., Meade J.C.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLEAVAGE (AUTO-) (BY SIMILARITY).
CELL ATTACHMENT SITE (POTENTIAL).
CHARGE RELAY SYSTEM (BY SIMILARITY).
CHARGE RELAY SYSTEM (BY SIMILARITY).
CHARGE RELAY SYSTEM (BY SIMILARITY).
CHARGE (GLCNAC...) (POTENTIAL).
N-LINKED (GLCNAC...) (POTENTIAL).
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CYS-RICH MOTIF
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AC 2.
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Pred. No.
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EXTRACELLULAR (POTENTIAL).
POTENTIAL.
CYTOPLASMIC (POTENTIAL).
CATALYTIC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (IN ISOFORM PC5A).
MISSING (IN ISOFORM PC5A).
WWW. 890955DC60534444 CRC64;
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DOMAIN
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Mammalia; Eutheria;
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SEQUENCE FROM N.A
                                                                                                                                                     Nucleic
                                                                                                                                                                    "Complete cDNA and B-100.";
                                                                                                                                                                                                                                                                                      NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                           Homo sapiens
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6; Conser
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100122; E1-E2_ATPase; 1.

PS00154; ATPASE_E1_E2; 1.
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937
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nilarity 100.0%;
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Primates;
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SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

MEDITAR-#37016385; PubMed=3763409;

Knott T.C., Wallis S.C., Powell L.M., Pease R.J., Lusis A.J.,

Blackhart B., McCarthy B.J., Mahley R.W., Levy-Wilson B., Scott J.;

Blackhart B., McCarthy B.J., Mahley R.W., Levy-Wilson B., Scott J.;
                                                                                                                                                                                                                                                                                                                                                                                                                  APB_HUMAN STANDARD; PRT; 4563 AA. P04114; 000502; Q13787; 01-NOV-1986 (Rel. 03, Crented) 01-NOV-1986 (Rel. 03, Last sequence update) 16-0CT-2001 (Rel. 40, Last annotation update) Apolipoprotein B-100 precursor (Apo B-100) [Contains: B-48 (Apo B-48)].
SEQUENCE FROM N.A.

MEDLINE-88003974; PubMed-3652907;

Ludwig E.H., Blackhart B.D., Pierotti V.R., Caiati L.,

Knott T., Scott J., Mahley R.W., Levy-Wilson B., McCar

"DNA sequence of the human apolipoprotein B gene.";

DNA 6:363-372(1987).
                                                                                                                                                14:7501-7503(1986)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Phosphorylation;
CYTOPLASMIC (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              POTENTIAL.

CYTOPLASMIC (POTENTIAL).

PHOSPHORYLATION (BY SIMILARITY).

MAGNESIUM (BY SIMILARITY).

MAGNESIUM (BY SIMILARITY).

POLY-ASN.

POLY-LYS.

POLY-ASN.

POLY-ASN.

POLY-ASN.
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MW; AE708AAE99009335 CRC64;
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CYTOPLASMIC
POTENTIAL.
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MEDLINE-85300528; PubMed-2994225;

Knott T.J., Rall S.C. Jr., Innererity T.L., Jacobson S.F.,

Urdea M.S., Levy-Wilson B., Povell L.M., Pease R.J., Eddy R.,

Nakai H., Byers M., Priestley L.M., Robertson E., Rall I.B.,

Betsholtz C., Shows T.B., Mahley R.W., Scott J.;

Human apolipoprotein B. structure of carboxyl-terminal domains,

sites of gene expression, and chromosomal localization.";

Science 230:37-43(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 709-906 FROM N.A.
MEDLINE-85270450; PubMed-3860836;
Deeb S.S., Wotulsky A.G., Albers J.J.;
"A partial cNA clone for human apolipoprotein B."
Proc. Natl. Acad. Sci. U.S.A. 82:4983-4986(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-87008488; PubMed-3759943; Chen S.-H., Yang C.-Y., Chen P.-F., Gotto A.M., Jr., Chan L.;
                                                                                                                                                                                                                                                                                                                                                                                                               Carlsson P., Olofsson Bjursell G., "Molecular cloning of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proc.
                                                                                                                                                           Protter A.A., Hardman D.A., Schilling J.W., Miller J., Chan G.C., Kirsher S.W., McEnroe G., Kane J.P.;
"Isolation of a cDNA clone encoding the amino-terminal human apolipoprotein B.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 1937-2018 AND 3811-4334 FROM MEDLINE-86093680; PubMed=3841204;
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Gotto A.M., Jr., Chan L
The complete cDNA and
                                                               MEDLINE-86287319, PubMed=3461454;
Protter A.A., Hardman D.A., Sato K.Y.,
Yamanaka M., Hort Y.J., Hjerrild K.A.,
"Analysis of cDNA clones encoding the
                                                                                                                                                                                                                   SEQUENCE OF 1-291 FROM N.A. MEDLINE-86149325; PubMed=3513177;
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PARTIAL SEQUENCE,
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                                        Proc. Natl. Acad.
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AND IDENTIFICATION PubMed=3659919;
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M., Higuchi K.,
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Sci. U.S.A. 83:8142-8146(1986)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chen S.-H., Habib G., Yang C.-H., Gu Z.-W., Silberman S.R., Cai S.-J., Deslypere J.P., J Gotto A.M. Jr., Li W.-H., Chan L.; "Apolipoprotein B-48 is the product of a me: specific in-frame stop codon."; science 238:363-366(1987).
                                                                                                                                                               MEDIINE=95190020; PubMed=7883971; Pullinger C.R., Hennessy L.K., Chatterton J.E., Liu W., Love Pullinger C.R., Frost P.H., Malloy M.J., Schumaker V.N., Kane J. "Familiah ligand-defective apolipoprotein B. Identification c mutation that decreases LDL receptor binding affinity."; J. Clin. Invest. 95:1225-1234(1995).
                                                                                                                                                                                                                                                           "Sequence polymorphism in the human apoB Nucleic Acids Res. 18:5922-5922(1990).
                                                                                                                                                                                                                                                                                                                                                                                                      Soria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dashti N., Lee D.M., Mok T.;
"Apolipoprotein B is a calcium binding protein.";
Biochem. Biophys. Res. Commun. 137:493-499(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Levy-Wilson B., Scott J.:
"Complete protein sequence and identification of human apolipoprotein B.";
Nature 323:734-738(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                  VARIANT FDB GLN-3527.
MEDLINE-89098975; PubMed-2563166;
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                                                                                   VARIANTS L-1437; S-1914; K-2566; T-3121; MEDLINE-97044521; PubMed-8889592; POILEY O., Ricard S., Behague I., Sourte Arveiler D., Marques-Vidal P., Luc G., R. Detection of new variants in the apolipo
                                                                                                                                                                                                                                                                                                                                                    "Association between a specific apolipoprotein familial defective apolipoprotein B-100"; proc. Natl. Acad. Sci. U.S.A. 86:587-591(1989)
                                                                                                                                                                                                                                                                                                                                                                                          McCarthy B.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Detection by denaturing gradient gel electrophoresis polymorphism in the apolipoprotein B gene."; Hum, Genet, 86:91-93(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-86242245;
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                       VARIANTS FDB GLN-3527 AND CYS-3558
MEDLINE-97403938; PubMed-9259199;
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PCR-SSCP.";
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          J.Р.,
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          Varret M., Saint-Jore B.,
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                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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-1- FUNCTION: CYTOCHROME |
-1- SUBCELLULAR LOCATION:
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                                         Electron
                                                                  Mendel; 10379;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Complete nucleotide sequence of the Porphyra purpurea chloroplast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=2787
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THE APOBLE RECEPTOR.

DISEASE: DEFECTS IN APOB ARE A CAUSE OF FAMILIAL LIGAND-DEFECTIVE APOLIFOPROTEIN B-100 (FDB). IT IS A DOMINANTLY INHERITED DISORDER OF LIVOPROTEIN METABOLISM LEADING TO HYPERCHULESTENOLEMIA AND INCREASED PRONENESS TO CONONARY ARTERY DISEASE (CAD).

THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHOLESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY ELEVATED DUE TO THE PLASMA CHORESTEROL LEVELS ARE DRAWFICALLY DE TOUR DETAILS DE TOUR DE TOUR DE TOUR DE
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MISCELLANEOUS: APO B-48 WHICH IS SYNTHESIZED ONLY BY THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INTESTINE, AND
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
6; Conser
                                  transport;
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                                                                  PORpu; yct31;1.
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                                  Chloroplast;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23.1%;
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OME B6-F COMPLEX SUBUNIT.
TON: Thylakoid membrane-associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bangiophyceae; Bangiales;
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Pred. No.
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he apolipoprotein B ge
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                                  Respiratory chain; Thylakoid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                on update)
(Cytochrome
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ATP8_HANWI
ID ATP8_HANWI
ID ATP8_HANWI
AC P48882;
DT 01-FEB-1996 (I
DT 01-FEB-1996 (I
DT 16-CCT-2001 (I
DT 16-MTP8-1014 Winc
OS Hansenula winc
OG Mitochondrion
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Best Local S
Matches 5
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P20198;
01~FEB-1991
01~FEB-1991
16~OCT-2001
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SEQUENCE
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01-FEB-1991 (Rel. 17, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Hypothetical 5.6 kDa protein (ORF A-45).
Sulfolobus virus-like particle SSVI.
Viruses; dsDNA viruses, no RNA stage; Fuselloviridae; Fusellovirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS00028; ZINC_FINGER_C2H2_1; 1.
PROSITE; PS50157; ZINC_FINGER_C2H2_2; 1.
Hypothetical protein; Zinc-finger; Metal-binding.
zN_FING 2 25 CZH2-TYPE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE~92024080;
Palm P., Schleper
Zillig W.;
      Mitochondrion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Interpro; IPR00082; Znf-C2H2.
Pfam; PF00096; zf-C2H2; 1.
SMART; SM00355; ZnF_C2H2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Virology 185:242-250(1991).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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                                  Hansenula wingei (Yeast)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; X07234; CAA30195.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                     19
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5; Conserva
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                                                                                                                      (Rel. 33, (Rel. 33, (Rel. 40,
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                                                                                          (Rel. 40, Last annotation update) protein 8 (EC 3.6.3.14) (ATPase subunit 8) (A6L)
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                                                                                                                                                                                                                                                           STANDARD;
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C., Grampp B.,
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3313
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100.0%; Pr
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                                                                                                                                                                                         Created)
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38BF487E0DCA308B CRC64;
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3F220EB834379FDA
                                                                                                                                                                                                                                                           PRT;
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SSV1 of the McWilliam P.,

Reiter W.-D.,

0 Length 45;

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Best Local
                                                                                                                                               Hydrogen
TRANSMEM
 Serine protense inhibitor; Semen.
DISULFID 14 43 BY 9
DISULFID 21 40 BY 9
DISULFID 29 61 BY 9
                                                PRINTS; PR00290; KAZALINHBTR.
SMART; SM00280; KAZAL; 1.
PROSITE; PS00282; KAZAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                     InterPro; IPR002350; Pfam; PF00050; kazal;
                                                                                                 PIR; A01234; XTBO1.
HSSP; P01004; 1SGP.
InterPro; IPR001239; Kazal_inhib
InterPro; IPR002350; kazal_
                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Cranlata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoldea
Bovidae; Bovinae; Bos.
NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                    21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence up
16-CCT-2001 (Rel. 40, Last annotation
Acrosin inhibitor I (BUSI-I).
                                                                                                                                                                                                                                                                                                                                                                                                                 BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sekito T., Okamoto K., Kitano H., Yoshida K.;

"Yeast Hansenula wingel mitochondria genome's complete DNA s
demonstrated unique characteristics.";

Nucleic Acids Symp. Ser. 31:233-234(1994).

11- FUNCTION: THIS IS ONE OF THE CHAINS OF THE NONENZYMATIC
                                                                                                                                                                                                                                     MEDLINE-84133805; PubMed-6365719;
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21-JUL-1986
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Saccharomycetales; Saccharomycetaceae; Pichia.
NCBI_TaxID=4907;
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13 33 POTENTIAL.
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                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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SEQUENCE
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SEQUENCE 74 AA;
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MEDLINE=95350630; PubMed=7542800;
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(TremBlrel. 17, Created)
(TremBlrel. 17, Last sequence update)
(TremBlrel. 19, Last annotation update
ESTER TRANSFER PROTEIN (FRAGMENT).
(Tree shrew).

update)

PRELIMINARY;

PRT;

485 ⋧ ALIGNMENTS

NATURAL KILLER CELL PROTEIN GROUP 2-C2

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Q9WVJ7;
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01-DEC-2001
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Zeng W.W., Chen B.S., Zhang J.;

*Cloning and sequencing of tree shrew cholesteryl ester transfer protein (CETP) cDNA.";

Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AF334033; AAK08086.1; ...

EMBL; AF334033; AAK08086.1; ...

InterPro; IPR001124; LBP_BPI_CETP.

Pfam; PF01273; LEP_BPI_CETP; 1.

Pfam; PF01273; LEP_BPI_CETP_C; 1.

SMART; SM00328; BPI2; 1.

SMART; SM00329; BPI2; 1.
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*Molecular cloning of mouse NKC2A and C.";

Immunogenetics 49:727-730(1999).

EMBL; AF166009; AAD40222.1; -

InterPro; IPR001304; lectin_c.

Pfam; PF00059; Lectin_c; 1.

SMART; SM00034; CLECT; 1.

PROSTTE; BS50041; C_TYPE_LECTIN_2; 1.

SEQUENCE 210 AA; 24210 MM; 0F7F9C3903F34E97 CRC64;
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Q9WVJB;
01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequer
01-DEC-2001 (TrEMBLrel. 19, Last annota
NATURAL KILLER CELL PROTEIN GROUP 2-A2.
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Zeng W.W., Ch
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Mammalia; Eutheria;
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[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=C57BL/6;
MEDLINE=99299364; PubMed=10369936;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
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                                                                                                                                                                                                                        DFLQSLS 145
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7; Conserv
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     (TrEMBLrel. 12,
(TrEMBLrel. 12,
(TrEMBLrel. 19,
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                                                                                                 PRELIMINARY;
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Last annotation updat
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       Created)
Last sequence update)
Last annotation update)
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Pred. No.
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                                                                                                       PRT;
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Best Local S
Matches 7
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Best Local Similarity
Matches 7; Conser
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Q9QXN7;
Q1-MAY-2000
Q1-MAY-2000
Q1-DEC-2001
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SMART; SM0034; CLECT; 1.

PROSITE; PS50041; C_TYPE_LECTIN_2; 1.

SEQUENCE 213 AA; 23951 MW; 6633CB9DFC46C4DD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-99299364; PubMed=10369936; Silver E.T., Lau J.C., Kane K.P.; "Molecular cloning of mouse NKG2A and Immunogenetics 49:727-730(1999). EMBL; AF106011; AAD40224.2; -MGD; MGI:1336162; Klrc2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota;
Mammalia; |
                                                                                                                                                Vance R.E., Jamieson A.M., Raulet D.H.;

"Recognition of the class Ib molecule Qa-1b by putative activating receptors CD94/NRG2 and CD94/NRG2E on mouse natural killer cells.";

J. Exp. Med. 190:1801-1812(1999).

EMBL; AF155779; AAF24982.1;

MGD; MGI:1929720; K1rc3.

MGD; MGI:1929730; Alrc3.

InterPro; IPR001304; lectin_c.
                                                                                                                                                                                                                                                                                                                  KLRC3
                                                                                                                                                                                                                                                                                                                           01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
NATURAL KILLER CELL GROUP 2E CELL RECEPTOR NKG2E.
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                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                               SEQUENCE
                                                                                                                    PROSITE;
                                                                                                                              Pfam; PF00059; lectin_c; SMART; SM00034; CLECT; 1
                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                        NCBI_TaxID=10090;
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150 DFLQSLS
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                                                                                                                    PS50041;
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Eutheria;
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                                          Conservative
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 156
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                                                                                               AA;
                                                                                                                     C_TYPE_LECTIN_2; 1.
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100.0%; Pr
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Rodentia;
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Rodentia;
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                                                     26.9%;
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                                                     Score 7; Pred. No.
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                                             Mismatches
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Murinae; Mus
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RA Barloy-Hubler F., Barnett M.J., Becker A., Boistard P., Bothe G.,
RA Barloy-Hubler F., Barnett M.J., Becker A., Boistard P., Bothe G.,
RA Boutry M., Bowser L., Buhrmester J., Cadleu E., Capela D., Chain P.,
RA Cowie A., Davis R.W., Dreano S., Federspiel N.A., Fisher R.F.,
RA Gloux S., Godrie T., Goffeau A., Golding B., Gouzy J., Gurjal M.,
RA Hernandez-Lucas I., Hong A., Hulzar L., Hyman R.W., Jores T., Kahn D.,
RA Hernandez-Lucas I., Keating D.H., Kiss E., Komp C., Ielaure V.,
RA Kahn M.L., Kalmann S., Keating D.H., Kiss E., Komp C., Ielaure V.,
RA Masuy D., Palm C., Peck M.C., Pohl T.M., Portetelle D., Purnelle B.,
RA Masuy D., Palm C., Peck M.C., Pohl T.M., Portetelle D., Purnelle B.,
RA Ramsperger U., Surzycki R., Thebault P., Vandenbol M.,
Vorhoelter F.J., Weidner S., Wells D.H., Wong K., Yeh K.-C., Batut J.,
RA Vorhoelter F.J., Weidner S., Wells D.H., Wong K., Yeh K.-C., Batut J.,
RA The composite genome of the legume symbiont Sinorhizobium meliloti.";
EMBL, AL591793; CAC47897.1;
DR EMBL, AL591793; CAC47897.1;
           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
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Eur. J. Immunol. 29:755-761(1999).
EMBL; AF109784; AAD24970.1; -.
MGD; MGI:1336161; Klrcl.
InterPro: IRR001304; lectin_c.
Pfam; PF00059; lectin_c; 1.
SMART; SM00034; CLECT; 1.
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C9WU32;
O1-NOV-1999 (TrEMBLre
O1-NOV-1999 (TrEMBLre
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Q92KY0
Q92KY0;
Q1-DEC-2001 (TrEMBLrel. 19, Created)
Q1-DEC-2001 (TrEMBLrel. 19, Last sequence update)
Q1-DEC-2001 (TREMBLRel. 19, Last sequence update)
Q1-DEC-2001 (TREMBLRel. 19, Last annotation update)
PUTATIVE CARBONIC ANHYDRASE POTERIN (EC 4.2.1.1).
Rhizobium meliloti (Sinorhizobium meliloti).
Bacteria: Proteobacteria: alpha subdivision; Rhizob
                                                                                                                                                               EMBL; ALS
Lyase; Co
SEQUENCE
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SEQUENCE
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Eukaryota; Metazoa; C
Mammalia; Eutheria; R
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(TrEMBLrel. 12, Last sequence update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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Rodentia;
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Sciurognathi; Muridae;
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EMBL; AF106010; AAA04922.1; -.
EMBL; AF109785; AAD24971.1; -.
MGD; MGI:1336162; K1rc2
InterPro: IPR001304; lectin_c.
Pfam; PF00059; lectin_c: 1.
SMARR; SM00034; CLECT; 1.
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01-NOV-1999
01-JUN-2001
                                                                                                                Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Eukheria; Rodentia;
                                                                                                                                                                                          01-MAY-1999 (TrEMBLrel 10, I
01-MAY-1999 (TrEMBLrel 10, I
01-JUN-2001 (TrEMBLrel 17, I
NATURAL KILLER CELL RECEPTOR
STRAIN-C57BL/6;
MEDLINE-99034608;
Vance R.E., Kraft
                                                                                                                                                                           NATURAL KILLER CELL KLRC1 OR NKG2A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-C57BL/6;
MEDLINE-9929936;
MEDLINE-9929936;
Silver E.T., Lau J.C.Y., Kane K.P.
"Molecular cloning of mouse NKG2A
Immunogenetics 49:727-730(1999).
                                                          SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=C57BL/6;
MEDLINE=99190498; PubMed=10092077;
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Mammalia; Eutheria;
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                                                                                              NCBI_TaxID-10090;
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PubMed=9815261;
J.R., Altman J.
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Rodentia;
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Sciurognathi; Muridae;
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Sciurognathi; Muridae;
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Eur. J. Immunol. 29:755-761(1999).
EMBL; AF095447; AAD03419.1; -
EMBL; AF109008; AAD40221.1; -
EMBL; AF109782; AAD24968.1; -
MCD; MGI:1336161; Klrc1.
InterPro; IPR001304; lectin_c.
                                                                                                                                                                                                               Lohwasser S., Hande P., Mager D.L., T.
"Cloning of murine NKG2A, B and C: se
receptors on murine NK cells.";
Eur. J. Immunol. 29:755-761(1999).
EMBL; AF109783; AAD24969.1;
NGG); MGI:1336161; Klrcl.
InterPro: IRB001304; lectin_c.
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Q9WU31;
01-NOV-1999
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[2]
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. STRAIN-BALB/C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-JUN-2001 (TrEMBLrel. 17, )
NATURAL KILLER CELL RECEPTOR
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                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-99190498; PubMed-10092077;
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            Local Similarity
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[TE; PS50041; C_TYPE_LECTIN_2;
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; SM00034; CLECT; 1.
TE; PS50041; C_TYPE_LECTIN_2;
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"The sequence of BAC F14L17 from Arabidopsis thaliana chrosubmitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Yamada K., Liu S.X., Sakano H., Pham P.K., Banh J., Etgu P., Le Toriumi M., Yu G., Brooks S., Chao Q., Chen H., Karlin-Neumann Kim C., Lam B., Miranda M., Nguyen M., Palm C.J., Shinn P., Southwick A., Davis R.W., Ecker J.R., Theologis A.; "Full Length cDNA of gene F14L17.18 (GI:7262683)."; Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
Yamada K., Liu S.X., Sakano H., Pham P.K., Banh J., Chung M.K., Goldsmith A.D., Lee J.M., Quach H.L., Tang C., Toriumi M., Yu G., Bowser L., Carninci P., Chen H., Cheuk R., Hayashizaki Y., Ishida Jones T., Kamiya A., Karlin-Neumann G., Kawai J., Kim C., Koesema
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RL Nucleic Acids Res. 28:4317-4331(2000).
CC -1- FUNCTION: PROBABLY PART OF THE BINDING-PROTEIN-DEPENDENT TRANSPORT CC SYSTEM. PROBABLY RESPONSIBLE FOR THE TRANSLOCATION OF THE CC. SUBSTRATE ACROSS THE MEMBRANE BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE COMPONENTS OF OTHER BINDING-CC PROTEIN-DEPENDENT TRANSPORT SYSTEMS.
CC -1- SUBCELLULAR TOCATION: TRANSPORT SYSTEMS.
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CC PROSITE: PS00402: BPD_transp. 1.
CR PROSITE: PS00402: BPD_TRANSP. 1.
CR PROSITE: PS00402: BPD_TRANSP. 1 INN MEMBR; 1.
CM Complete Proteome: Transmembrane; Transport.
CC 280 AA; 31670 MW; E7CBP596591B95C4 CRC64;
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Fuji F., Hirama C., Nakamura Y., Ogasawara
Horikoshi K.;
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MEDLINE~20512582; PubMed-11058132;
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(TYEMBLrel. 15, Last sequence update)
(TYEMBLEL. 17, Last sequence update)
TODEXTRIN TRANSPORT SYSTEM (PERMEASE).
                                                 PRELIMINARY;
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STRAIN-CV. COLUMBIA;
SAKANO H., Liu S.X., Etgu P., Lee J.M., Liu A., Smith A., Vaysberg ,
G., Chan A., Chung M., Goldsmith A., Liu A., Smith A., Vaysberg ,
Altafi H., Brooks S., Buehler E., Chao Q., Conn L., Conway A.B.,
Hansen N.F., Johnson-Hopson C., Khan S., Kim C., Lam B., Miranda M.,
Nguyen M., Palm C.J., Shinn P., Southwick A., Davis R.W., Ecker J.R
Federspiel N.A., Theologis A.;
"The sequence of BAC F2H15 from Arabidopsis thallana chromosome 1."
Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AC034106; AAF97273.1; ...
B681476986480D5D CRC64;
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Q9LMT6;
Q1-OCT-2000
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OPKLJ7;
O1-OCT-2000 (TrEMBLrel. 15, Created)
O1-OCT-2000 (TrEMBLrel. 15, Last sequence update)
O1-DEC-2001 (TrEMBLrel. 19, Last annotation update)
ANAEROBIC GLYCEROL-3-PHOSPHATE DEHYDROGENASE, SUB-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arabidopsis thallana (Nouse-ear cress).

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Mayonliophyta; eudicotyledons; core eudicots; Rosidae;

eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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EMBL; AY036108; AAK72486.1; - SEQUENCE 373 AA; 40600 MW; 6
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MEDLINE-20406833; PubMed=10952301;

Heidelberg J.F., Eisen J.A., Nelson W.C., Clayton R.A., Gwinn M.L.,

Dodson R.J., Haft D.H., Hickey E.K., Peterson J.D., Umayam L.A.,

Gill S.R., Nelson K.E., Read T.D., Tettelin H., Richardson D.,

Ermolaeva M.D., Vamathevan J., Bass S., Qin H., Dragoi I., Sellers P.,

McDonald L., Utterback T., Fleischmann R.D., Nierman W.C., White O.,

Salzberg S.L., Smith H.O., Colwell R.R., Mekalanos J.J., Venter J.C.,

Fraser C.M.;
                                                                                                  NON_TER
SEQUENCE
                                                                                                                                                       SEQUENCE FROM N.A.
MEDLINB-99303308; PubMed-10376815;
Brunder W., Schmidt H., Frosch M., Karch H.;
"The large plasmids of Shiga-toxin-producing are highly variable genetic elements.";
Microbiology 145:1005-1014(1999).
EMBL; AJ010390; CAB42538.1;
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01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-JUN-2001 (TrEMBLrel. 17,
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PRINTS; PR01001; FADG3PDH.
PROSITE; PS00978; FAD_G3PDH.2; 1.
PROSITE; PS00175; PG_MUTASE; UNKN
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                                                                                                                                                                                                                                                                        Escherichia coli.
Plasmid pO157.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nature 406:477-483(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cholerae
                                                                                                                          Plasmid
                                                                                                                                              InterPro; IPR000710;
                                                                                                                                                                                                                                                      Bacteria; Proteobacteria; Escherichia.
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     479
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LLVDFLQ
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7; Conser
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Last annotation update)
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                                              Score 7; DB 2
Pred. No. 44;
0; Mismatches
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Best Local S
Matches 7
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InterPro; IPRO02110; ANK.
InterPro; IPRO01849; PH.
InterPro; IPRO01849; PH.
InterPro; IPRO01866; Ras_trnsfrmng.
InterPro; IPR003575; Small_GrPase.
InterPro; IPR001164, Znf_GCS.
Pfam; PF00023; ank; 2.
Pfam; PF000112; ArfGap; 1.
Pfam; PF00169; PH; 1.
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Q9XX09;
01-NOV-1999
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O94CF2;
O94CF2;
O1-DEC-2001 (TrEMBLrel. 19, Created)
O1-DEC-2001 (TrEMBLrel. 19, Last sequence update)
O1-DEC-2001 (TrEMBLrel. 19, Last annotation update)
HYPOTHETICAL 96.6 KOA PROTEIN.
Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; endicotyledons; core eudicots; Rosidiana (Mouse-ear cress).
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SEQUENCE FROM N.A.

Yamada K., Liu S.X., Sakano H., Pham P.K., Banh J., Chung M.K.

Yamada K., Liu S.X., Sukano H., Cheuk R., Hayashizaki Y., Yu

Goldsmith A.D., Lee J.M., Quach H.L., Tang C., Toriumi M., Yu

Bowser L., Carninci P., Chen H., Cheuk R., Hayashizaki Y., Ish

Jones T., Kantya A., Karlin-Neumann G., Kawai J., Kim C., Koes

Lam B., Lin J., Meyers M.C., Miranda M., Narusaka M., Nguyen M.

Palm C.J., Sakurai T., Satcu M., Seki M., Shinn P., Southwick

Shinozaki K., Davis R.W., Ecker J.R., Theologis A.;

"Full Length cDNA of gene T3266.14/At2941620 (G1:2618698).";

Submitted (MAY-2001) to the EMBL/GenBank/DDHJ databases.

EMBL, AY934997; AAK59414.1; ".
                                                                                                                                                                                                                                                                      Caenorhabditis elegans.
Eukaryota; Metazoa; Nemat
Rhabditidae; Peloderinae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eurosids II;
                                                                                                   investigating biology.";
Science 282:2012-2018(1998).
EMBL; AL031633; CAA21032.1;
                                                                                                                                                                                SEQUENCE FROM
                                                                                                                                                                                                          Submitted
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                                                                                                                                                                                                                                                         NCBI_TaxID=6239;
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                                                                                                                                            "Genome sequence of the
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nilarity 100.0%;
Conservative
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Pred. No. 45;
0; Mismatches
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annotation update)
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SMARP; SM00248; ANK; 2.
SMARP; SM00105; ArfGap; 1.
SMART; SM00233; PH; 1.
SMART; SM00233; PH; 1.
SMART; SM00231; PH; 1.
PROSITE; PS50088; ANK_REPEAT; 1.
PROSITE; PS50297; ANK_REP_REGION; 1.
PROSITE; PS50003; PH_DOMAIN; 1.
                                                                                                                                                                                                                                      MEDIINE-99290540; PubMed-9628576;
Makino K., Ishii K., Yasunaga T., Hattori M., Yokoyama K.,
Yatsudo H.C., Kubota Y., Yamaichi Y., Iida T., Yamamoto K., Honda T
Yatsudo H.C., Ohtsubo A., Kasamatsu M., Hayashi T., Kuhara S., Shinagawa
"Complete nucleotide sequences of 93-kb and 3.3-kb plasmids of an
enterohemorrhagic Escherichia coli O157:H7 derived from Sakai
                                                                                                                                                                                                                                                                                                                               MEDLINE=97338033; pubMed=9194704;
Brunder W., Schmidt H., Karch H.;
"EspP, a novel extracellular serine pro
Escherichia coli 0157:H7 cleaves human
Mol. Microbiol. 24:767-778(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JAN-1998 (TrEMBLrel. 05, Cr
01-JAN-1998 (TrEMBLrel. 05, La
01-JUN-2001 (TrEMBLrel. 17, La
PUTATIVE EXOPROTEIN-PRECURSOR.
                                                                                                 of Escherichia coll 0157:H7.";
Nucleic Acids Res. 26:4196-4204(1998).
EMBL; X97542; CAA66144.1; -.
                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacteria; Proteobacteria;
Escherichia.
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                                            InterPro: IPR000710; IgA_S6 Pfam; PF02395; IGA1; 1.
                                                                                                                                                Blattner F.R.;
                                                                                                                                                         MEDLINE-98391744; PubMed-9722640; Burland V., Shao Y., Perna N.T.,
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                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                              outbreak.
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                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID-83334;
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 SEQUENCE
                                                                                                                                    "The complete DNA sequence and analysis
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AF074613; AAC7008B.1;
S; S06.002;
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903 AA; 99830 MW; P
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POTENTIAL.

MW; E34D3F037DEC672F CRC64;
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coagulation factor V.";
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RESULT
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Matches 7
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09L719;
01-OCT-2000
01-OCT-2000
01-DEC-2001
CPCB (FRAGME
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032591;
01-JAN-1998
01-JAN-1998
01-DEC-2001
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                                                         Robertson B.R., Tezuka N., Watanabe M.M.;
Phylogenetic analyses of Synechococcus strains (cyanobacteria)
sequences of 16s rDNA and part of the phycocyanin operon reveal
multiple evolutionary lines and reflect phycobilin content.";
Int. J. Syst. Evol. Microbiol. 51:861-871(2001).
EMBL, AF223433; AAF60094.1; ".
                                                                                                                                                                                                                                                Synechococcus sp. PS672.
Bacteria; Cyanobacteria;
NCBI_TaxID=115754;
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Djafari S., Ebel F.,
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Mol. Microbiol. 25:771-784(1997).
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InterPro; IPKV
Pfam; PF00502;
                                        EMBL; AF22343
HSSP; P00311;
                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN-PS672;
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Q9MC72;
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                          SEQUENCE FROM N.A. MEDLINE=20485557;
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[2]
                                                                                                                                                                                                             SEQUENCE FROM N.A.
MEDLINE=20042341; PubMed=10572124;
                                                                                                                                                                                                                                                                                            Viruses; dsDNA viruses,
Lambda phage group.
NCBI_TaxID=31535;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebr
Mammalia; Eutheria; Primates; Platyrrhini; Cebi
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  Kropinski A.M.;
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Canavez F.C.;
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and analysis of the capsid morphogenesis genes of Pseudomonas
sa bacteriophage D3: another example of protein chain mail?";
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RESULT Q9R317 Q9R317 ID QS AC QS DT 01 DT 01

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Q9R317 Q9R317; 01-MAY-2000 01-MAY-2000

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13,

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PRELIMINARY;

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Ra Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,

Ra Kadota K., Matsuda H.A., Ashburner M., Battalov S., Casavant T.,

Ra Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,

Ra Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,

Ra Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,

Ra Schrimi L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,

Ra Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

Ra Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

Ra Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,

Ra Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,

Ra Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,

Ra Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,

Ra Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,

Ra Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,

Ra Sasaki H., Toyo-oka K., Wang K.H., Weltz C., Whitaker C., Wilming L.,

Ra Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,

Pernotical Barotatica of Schillerath Borne C., Wilming L.,

Ra Hynshizaki Y.,
                                                             Matches
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Best Local
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01-JUN-2001
01-JUN-2001
                                                                                                                                  "Functional annotation of a ful
Nature 409:85-690(2001).
EMBL; AK007686; BAB25190.1; -
MGD; MGI:1916434; 1810033P05Rik
SEQUENCE 112 AA; 12043 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Sequence of the Genome of the Temperate, Pseudomonas aeruginosa Bacteriophage D3.", J. Bacteriol. 182:6066-6074(2000).
EMBL; AF165214; AAF80809.1: -.
SEQUENCE 111 AA; 12720 MW; 426E2DDOBA4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M. Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=C57BL/6J; TISSUE-PANCREAS;
MEDLINE=21085660; PubMed=11217851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus (Mouse).
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                              3 GFLLLQ
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6; Conser
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 44
                                                            Conservative
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Rodentia;
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Pred.
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                                                                       DB 11;
D. 68;
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Matches 6
Query Match
Best Local Similarity
Matches 6; Conserv
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STRAIN-ATCC 15692 / PAO1;

MEDLINE-20437337; PubMed-10984043;

MEDLINE-20437337; PubMed-10984043;

Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrener P.,

Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M.,

Garber R.L., Goltry L., Tolentino E., Westbrock-Waddman S., Yuan Y.,

Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,

Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T.,

Smith K.A., Spencer D.H., Hancock R.E.W., Lory S., Olson M.V.;
                                                                                                                                                                                                  EMBL;
                                                                                                                                                                                                                                                                                                    Graham D.E., Overbeek R., Snead M.A., Keller N
Feldman R.A., Short J.M., Olson G.J., Swanson
                                                                                                                                                                                                                                                                                                                   STRAIN-VED:
MEDLINE-90196666; PubMed-9537320;
Deckert G., Warren P.V., Gaasterland T., Young W.G.,
Deckert G., Warren P.V., Snead M.A., Keller M., Auj
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Aquifex aeolicus.
Bacteria; Aquificales;
NCBI_TaxID=63363;
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EMBL; AB030826; BAA83141.1; -.
EMBL; AE004409; AR004023.1; -.
Hypothetical protein; Complete
SEQUENCE 115 AA; 12870 MW;
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STRALN=ATCC 15692 / PAO1, AND PML14;

STRALN=ATCC 15692 / PAO1, AND PML14;

Nakayama K., Takashima K., Ishihara H., Shinomiya T., Kageyama M.

Kanaya S., Ohnishi M., Murata T., Terawaki Y., Mori H. Hayashi '

"Genetic relationship between bacteriocins and bacteriophages.";

Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-DEC-2001 (TremBlrel. 19, Last annotation update) HYPOTHETICAL 12.9 KDA PROTEIN (HYPOTHETICAL PROTEIN PA0634).
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01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     opportunistic pathogen.";
Nature 406:959-964(2000).
                                                                                                                                         Hypothetical protein; Complete SEQUENCE 130 AA; 15626 MW;
                                                                                                                                                                                                                                                     aeolicus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
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6; Conser
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  Score 6; DB ]; Pred. No. 78; 0; Mismatches
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BB69B69D33D19E49 CRC64;
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45CF04E5F6D90DDF
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bacterium Aquifex
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Hayashi T.;
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           Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
A Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
A Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
A Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
A Kadota K., Matsuda H.A., Ashburner M., Batchov S., Casawant T.,
A Kadota K., Matsuda H.A., Ashburner M., Batchov S., Casawant T.,
A Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Ouackenbush J.,
Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
A Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Ouackenbush J.,
Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
A Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Ouackenbush J.,
A Kuehl P., Lewis S., Matsuo Y., Nikaido I., Barsh G.,
A Kuehl P., Lewis S., Buruno M., Aono H., Baldarelli R., Barsh G.,
A Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
A Sakai K., Okido T., Furuno M., Carninci P., de Bonaldo M.F.,
A Sakai K., Okido T., Bult C., Filtcher C., Fujita M., Gariboldi M.,
Belake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
A Blake J., Boffelli D., Bojunga N., Carninci P., Gariboldi M.,
Bousnate M., J., Mashima J., Mazzarelli J., Mombaerts P.,
A Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
A Gaski H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
Saynshaw-Boris A., Yoshida K., Haseoraya Y. Kayati H., Kohtsuki G.,
A Wynshaw-Boris A., Yoshida K., Haseoraya Y. Kayati H., Kohtsuki G.,
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Q9JM85;
Q1-OCT-2000
Q1-OCT-2000
Q1-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               O9DB70 PRELIMINARY; PRT; 155 AA.

Q9DB70;
Q1-JUN-2001 (TrEMBLrel. 17, Created)
O1-JUN-2001 (TrEMBLrel. 17, Last sequence update)
O1-DEC-2001 (TrEMBLrel. 19, Last annotation update)
1500005J14RIK PROTEIN (RIKEN CDNA 1500005J14 GENE).
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MGD; MGI:
SEQUENCE
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STRAIN-C57BL/6J; TISSUE-CEREBELLUM;
MEDLINE-21085660; PubMed-11217851;
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Eukaryota; Metazoa; (
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Mammalia; Eutheria; Rodentia;
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ENCE 150 AA; 17248 MW;
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Rodentia;
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Hasegawa
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Sciurognathi; Muridae;
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097VI6 PRELIMINARY;
097VI6;
01-OCT-2001 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=20083487; PubMed=10617197;
Lin X., Kaul S., Rounsley S.D., Shea T.P., Benito M.-I., Town C.D.,
Fujii C.Y., Mason T.M., Bowman C.L., Barnstead M.E., Feldblyum T.V.,
Buell C.R., Ketchum K.A., Lee J.J., Ronning C.M., Koo H., Moffat K.S.,
Cronin L.A., Shen M., VanAken S.E., Umayam L., Tallon L.J., Gill J.E.,
Adams M.D., Carrera A.J., Creasy T.H., Goodman H.M., Somerville C.R.,
Copenhaver G.P., Preuss D., Nierman W.C., White O., Eisen J.A.,
Salzberg S.L., Fraser C.M., Venter J.C.;
*Sequence and analysis of chromosome 2 of the plant Arabidopsis
**Sequence and analysis of chromosome 2 of the plant Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Arabidopsis thaliana (Mouse-ear cress).

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magooliophyta; endicotyledons; core eudicots; Rosidae;

eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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EMBL; BC012515; AAH12515.1; --
MGD; MGI:1919268; 1500005114Rik, SEQUENCE 155 AA; 17158 MW; 8
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"Functional annotation of Nature 409:685-690(2001).
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01-MAY-2000 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                              Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases EMBL; AC006224; AAD22125.1; . TBC75BE4047A48A CRC64; SEQUENCE 156 AA; 17825 MW; 7D8C75BE4047A48A CRC64;
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STRAIN-CV. COLUMBIA;
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C STRAIN-AUCC 35092 / DSM 1617 / P2;

C STRAIN-AUCC 35092 / DSM 1617 / P2;

X MEDLINE-C1332296; PubMed-11427726;

X MEDLINE-C1332296; PubMed-11427726;

A She Q., Singh R.K., Confalonieri F., Zivanovic Y., Allard G.,

A Awayez M.J., Chan Welher C.C.-Y., Clausen I.G., Curtis B.A.,

A De Moors A., Erauso G., Fletcher C., Gordon P.M.K.,

A Helkamp-de Jong I., Jeffries A.C., Kozera C.J., Medina N., Peng

A Helkamp-de Jong I., Jeffries A.C., Kozera C.J., Medina N., Peng

A Thi-Ngoc H.P., Redder P., Schenk M.E., Theriault C., Tolstrup N.

Charlebois R.L., Doolitttle W.F., Duguet M., Gaasterland T.,

A Garrett R.A., Ragan M.A., Sensen C.W., Van der Oost J.;

"The Complete genome of the crenarchaeon Sulfolobus solfataricu

Proc. Natl. Acad. Sci. U.S.A. 98:7835-7840(2001).

REMBL; AB00689; AAX47758.1;

B EMBL; AB00689; AAX47758.1;

B EMBL; AB00689; AAX47758.1;
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InterPro; IPRO01041; Ferredoxin.
Pfam; PF00111; fer2; 1.
Pfam; PF01799; fer2_2; 1.
ProDom; PD186071; 2Fe-25_BD; 1.
Oxidoreductase; Complete proteome.
SEQUENCE 163 AA; 17933 MW; FDCD:
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Q52661;
01-NOV-1996
                                                                                                                                                                                                                                   Zheng S., Scappino L., Haselkorn R.;
Submitted (MAY 1995) to the EMBL/GenBank/DDBJ
EMBL; U28162; AAA70412.1; -.
SEQUENCE 166 AA; 18009 MW; 95AF53474634B9I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1996 (Tremblrel. 01, 01-NOV-1996 (Tremblrel. 01, 01-DEC-2001 (Tremblrel. 19, PRIMARY SIGMA FACTOR RPOD (F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sulfolobus solfataricus
Archaea; Crenarchaeota;
NCBI_TaxID=2287;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rhodobacter capsulatus (Rhodopseudomonas capsulata)
Bacteria; Proteobacteria; alpha subdivision; Rhodob
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (CUTC-2) (ECCUTC-2.
                                                                                                                                                                                                                                                                                                                                            STRAIN-SB1003;
                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=1061;
                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
154 DFLQSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30
                                                    20 DFLQSL 25
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                                                                                                        Similarity
6; Conser
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6; Conser
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                                                                                                        Conservative
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                                                                                                                                23.1%;
100.0%;
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19, Last
(RPOD)
                                                                                                                                Score; Pred.
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Pred. No.
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                                                                                                                                                                                                                                      95AF53474634B9DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FDCD218ECFD0F5F6 CRC64;
                                                                                                           Mismatches
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annotation updat
AND UNKNOWN ORF
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5. 97;
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                                                                                                                                                         Length 166;
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                                                                                                                                                                                                                                      CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENES,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               solfataricus P2.";
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RESULT OF SHAPE OF SH
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Best Local
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Q55940;
Q55940;
Q55940;
Q55940;
Q55940;
Q1-NOV-1996 (TrEMBLrel. 01, Created)
Q1-NOV-1996 (TrEMBLrel. 17, Last sequence update)
Q1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
Q1-JUN-2001 (TrEMBLrel. 01, Created)
Q1-JUN-1996 (TrEMBLrel. 01, Last sequence update)
Q1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
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OSP3B0;
O1-OCT-2000 (TrEMBLrel. 15, Created)
O1-OCT-2000 (TREMBLrel. 15, Last sequence update)
O1-DEC-2001 (TREMBLrel. 19, Last annotation update)
VERY HYPOTHETICAL PROTEIN.
SPACI565.03.
SCHIZOSACCHAROMYCES POMDE (Fission yeast).
Schizosaccharomyces pombe (Fission yeast).
Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Seeger K., Harris D., Wood V., Rajandream Submitted (JUL-2000) to the EMBL/GenBank/EMBL, AL39274; C.As99270.1; ...
InterPro; IPR001230; Prenyltn.
PROSITE; PS00294; PRENYLATION; UNKNOWN_1.
Hypochetical protein.
SEQUENCE 166 AA; 18985 MW; D52D50C4DC
                                                                                                                                                                                                                                      "Sequence analysis of the genome of the unicellular cyanobacterium synechocystis sp. strain PCC6803. II. Sequence determination of the entire genome and assignment of potential protein-coding regions."; DNA Res. 3:109-136(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kanoko T., Sato S., Kotani H., Tanaka A., Asamizu E., Nekamura Y., Miyajima N., Hirosawa M., Sugiura M., Sasamoto S., Kimura T., Hosouchi T., Matsuno A., Muraki A., Nakazaki N., Naruo K., Okumura Shimpo S., Takeuchi C., Wada T., Watanabe A., Yamada M., Yasuda M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Sequence analysis of the genome of the unicellular cyc
Synechocystis sp. strain PCC6803. I. Sequence features
region from map positions 64% to 92% of the genome.";
DNA Res. 2:153-166(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
MEDLING=96127529; PubMed=8590279;
Maneko T., Tanaka A., Sato S., Kotani H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-972H-
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Schizosaccharomyces.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID-4896;
               Hypothetical
SEQUENCE 20
                                                                                          EMBL; D64004; BAA10596.1; -.
InterPro; IPR000182; Acetyltransf_GCN5.
Pfam; PF00583; Acetyltransf; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-97061201; PubMed-8905231;
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6; Conserv
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               l protein;
204 AA; 2
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100.0%; Pr
; Complete proteome.
23376 MW; 4A60C87CCCDDA6B4 CRC64;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          D52D50C4DCB02297 CRC64;
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99;
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Q9A7Q6;
Q1-JUN-2001
01-JUN-2001
01-DEC-2001
                                                                                                                                                                                                                        Q9D6M8;
Q9D6M8;
Q1-JUN-2001
Q1-JUN-2001
Q1-JUN-2001
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EMBL; AE005841; AAK23642.1;
TIGR; CC1664; -.
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STRAIN-ATCC 19089 / CB15;
MEDLINE-21173698; PubMed-11259647;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CC1664.
                SEQUENCE FROM N.A.
STRAIN-C57BL/6J; TISSUE-TONGUE;
MEDLINE-21085660; PubMed-11217851;
                                                                                                                      Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Complete proteome; DNA-binding; Transcription regulation SEQUENCE 210 AA; 22742 MW; B181CDC406C2CFA1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Caulobacter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSCRIPTIONAL
                                                                                                                                                                                                          01-JUN-2001 (TrEMBLIEL.
01-JUN-2001 (TrEMBLIEL.
01-JUN-2001 (TrEMBLIEL.
2310075G12RIK PROTEIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR001647; Pfam; PF00440; tetR;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Caulobacter
                                                                                                    NCBI_TaxID=10090;
                                                                                                                                                                                       2310075G12RIK
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                                                                                                                                                                                                                                                                                                                                                                                                                         182 VDFLQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23
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nes 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17 LLVDFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19 VDFLQS
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6; Conserv
Shinagawa
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l (TrEMBLrel. 17, I
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l (TREMBLRE), TI
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17,
17,
Shibata
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       , Last sequence update), Last annotation updat TETR FAMILY.
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Last annotation updat
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Pred. No.
                                                                                                                      Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                   PRT;
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. No. 1.2e+02;
  Yoshino
                                                                                                                                                                                                                                                                                                                   222
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                                                                                                                                              Euteleostomi;
                                                                                                                             Murinae: Mus
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                            -!- SUBCELLULAR LOCATION: NUCLEAR
-!- SIMILARITY: TO THE MADS DOMAIN
EMBL; U78950; AAD51423.1; -.
HSSP; P11831; 1SRS.
TRANSFAC; T04732; -.
Interpro: TDANSFAC; TDANSFA
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Nature 409:685-690(2001).
EMBL; AKOL0175; BAB26748.1; -
MGD; MGI:916924; 2310075G12Rik.
InterPro; IPR003890; EIF4G_cent.
SMART; SM00543; MIF4G; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
STRAIN-CV. FUJI; TISSUE-FLOWER BUD
MEDLINE-20246725; PubMed=10787044;
                                                                                  PRINTS; PR00404; MADSDOMAIN.
SMART; SM00432; MADS; 1.
PROSITE; PS00350; MADS_BOX_1;
PROSITE; PS50066; MADS_BOX_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Malus domestica (Apple) (Malus sylvestris).
Eukaryota; Viridiplantae; Streptophyta; Embryoph
Spermatophyta; Magnollophyta; eudicotyledons; co
eurosids I; Rosales; Rosaceae; Maloideae; Malus.
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        DNA-binding; Nuclear protein; SEQUENCE 235 AA; 26690 MW;
                                                                                                                                                                                                                                              Pfam; PF01486; K-box; 1. Pfam; PF00319; SRF-TF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 apple.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sung S.K., Yu G.H., Nam J., Jeong D.H., An G.; "Developmentally regulated expression of two MADS-box and MdMADS4, in the morphogenesis of flower buds and f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MADS-BOX PROTEIN 4.
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                                                                                                                                                                                                                                                                                                                                                                   InterPro;
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6; Conser
                                                                                                                                                                                                                                                                                                                            IPR002487; K-box.
IPR002100; MADS-box
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Last annotation updat
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
        Transcription regulation 6613CA8601CA8F1B CRC64;
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N FAMILY OF TRANSCRIPTION FACTORS
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No. 1.3e+02;
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086738;
01-NOV-1998
                                                                                                                       Q9K909;
Q9K909;
01-OCT-2000
01-OCT-2000
01-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Streptomyces coelicolor.
Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "A set of ordered cosmids and a detailed genetic and physical map the 8 Mb Streptomyces coelicolor A3(2) chromosome."; Mol. Microbiol. 21:77-96(1996). EMBL, AL031035; CAA19891.1; ... InterPro; IPR004129; GDPD. InterPro; IPR004129; GDPD. InterPro; IPR000909; PI_PLC_X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Murphy L., Harris D.; Submitted (JUL-1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=A3(2):
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Actinomycetales;
NCBI_TaxID-1902;
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01-OCT-2000 (TrEMBLrel. 15, 1
01-DEC-2001 (TrEMBLrel. 19, 1
ENOYL-(ACYL-CARRIER PROTEIN)
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                Bacteria; Firmicutes; Bacillus/Clostridium Bacillus/Staphylococcus group; Bacillus.
                                                                                  BH2843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Redenbach M., Kieser H.M., Denapaite D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN-A3(2);
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Parkhill
                                                          Bacillus halodurans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF03009; GDPD;
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17 (TrEMBLrel. 19, Last seque.
1 (TrEMBLrel. 19, Last annotation of the seque.)
18 (26.3 KDA promise of the seque.)
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s; Pred. No. 1.4
0; Mismatches
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Pred. No.
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SEQUENCE FROM N.A.
STRAIN-C-125 / JCM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SPECIES=S.aureus (strain N315), and S.aureus (strain M150);
MEDLINE=21311952; PubMed=11418146;
MEDLINE=21311952; PubMed=11418146;
MEDLINE=21311952; PubMed=11418146;
MEDLINE=21311952; PubMed=11418146;
MEDLINE=21311952; PubMed=1141814;
Baba T., Yuzawa H., Kobayashi T., Kulan J.-Q., Ito T.,
Cui L., Oyuchi A., Aoki K.-I., Nagqi Y., Lian J.-Q., Ito T.,
Kanamori M., Aoki K.-I., Nagqi Y., Lian J.-Q., Ito T.,
Kanamori M., Matsumaru H., Maruyama A., Murakami H., Hosoyama A.,
Mizutani-Ui Y., Takahashi N.K., Sawano T., Inoue R.-I., Kaito C.,
Mizutani-Ui Y., Takahashi N.K., Sawano T., Inoue R.-I., Kaito C.,
Sekimizu K., Hirahasu H., Kuhara S., Goto S., Yabuzaki J.,
Kanahisa M., Yamashita A., Oshima K., Furuya K., Yoshino C., Shibi
Hattori M., Ogasawara N., Hayashi H., Hirahasu K.;
Wabala Garagana M., Ogasawara N., Hayashi H., Hirahasu K.;
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MEDLINE-20512582; PubMed-11058132;
Takami H., Nakasone K., Takaki Y., Maeno G., S:
Fuji F., Hiroma C., Nakamura Y., Ogasawara N.,
Horikoshi K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Staphylococcus aureus (strain N315), and Staphylococcus aureus (strain M450).
Bacteria; Firmicutes; Bacillus/Clostridium grabacillus/Staphylococcus group; Staphylococcus MCBI_TaxID=158879, 158878;
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EMBL; APO01516; BAB06562.1; ...
HSSP; P29132; 1DFI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lancet 357:1225-1240(2001).
EMBL; AP003133; BAB42376.1; -.
EMBL; AP003361; BAB57443.1; -.
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087858
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                                                                                                                                                                                                                                                                                                                                                            Hypothetical protein; Complete SEQUENCE 275 AA; 31478 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Whole genome sequencing
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Last annotation update)
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-!- SIMILARITY; WITH INTEGRAL MEMBRANE COMPONENTS OF OTHE
PROTEIN-DEPENDENT TRANSPORT

EMBL; AL031013; CAA19796.1; -.

R InterPro; IPR000515; BPD_transp.

R InterPro; IPR000531; TonnB_boxC.

R Pfam; PF00528; BPD_transp; 1.

R PROSITE; PS00402; BPD_TRANSP_INN_MEMBR; 1.

R PROSITE; PS00400; TONB_DEPENDENT_REC_1; UNKNOWN_1.

R PROSITE; PS00400; TONB_DEPENDENT_REC_1; UNKNOWN_1.

SUGAR TRANSPORT; Transmembrane; Transport.

SUGAR TRANSPORT; Transmembrane; Transport.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9N535
Q9N535;
Q1-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             087858;
01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
01-DEC-2001 (TrEMBLREL. 19, Transport profess.
                                                                                                                                                                                                                                                                                                                                                                01-OCT-2000 (TremBLrel. 15, Ct
01-OCT-2000 (TremBLrel. 15, La
01-DEC-2001 (TremBLrel. 19, La
HYPOTHETICAL 31.8 KDA PROTEIN
                                                             SEQUENCE FROM N.A. STRAIN-BRISTOL N2; MEDLINE-99069613;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "A set of ordered cosmids and a detailed genetic and physical the 8 mb Streptomyces coelicolor A3(2) chromosome."; Mol. Microbiol. 21:77-96(1996).

-I- FUNCTION: PART OF THE BINDING-PROTEIN-DEPENDENT TRANSPORT PROBABLY RESPONSIBLE FOR THE TRANSLOCATION OF THE SUBSTRAT THE MEMBRANE (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-A3(2);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Streptomyces coelicolor.
Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
                                                                                                                                                                                                                             Eukaryota; Metazoa; Nemat
Rhabditidae; Peloderinae;
                                                                                                                                                                                                                                                                                               Caenorhabditis elegans.
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Parkhill J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Seeger K.J.,
Submitted (J
                                    None;
                                                                                                                                                                                                NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-97000351; PubMed-8843436;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-A3(2);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Redenbach M.,
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Genome sequence
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ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
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   of
                                                                     PubMed-9851916;
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to the
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                                                                                                                                                                                                                                 oda; Chromadorea;
Caenorhabditis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 6; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
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). 1.6e+02;
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                                                                                                                                                                                                                                                                  Rhabditida; Rhabditoidea;
                                                                                                                                                                                                                                                                                                                                                                                                    update)
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platform
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RESULT OCCUPATION OF STREET OCCUPATION OCCUP
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                   RA Kunst F., Ogasawara N., Moszer I., Albertini A.M., Alloni G.,
RA Azevedo V., Bertero M.G., Bessleres P., Bolotin A., Borchert S.,
RA Borviss R., Boursier L., Brans A., Braun M., Brignell S.C., Bron S.,
RA Borviss R., Boursier L., Brans A., Braun M., Brignell S.C., Bron S.,
RA Brouillet S., Bruschi C.V., Caldwell B., Capuano V., Carter N.M.,
RA Choi S.K., Codani J.J., Connerton I.F., Cummings N.J., Daniel R.A.,
RA Denizot F., Devine K.M., Dusterhoft A., Ehrlich S.D., Emmerson P.T.,
RA Entian K.D., Errington J., Fabret C., Ferrari E., Foulger D.,
RA Entian K.D., Errington J., Fabret C., Ferrari E., Foulger D.,
RA Entian K.D., Errington J., Fabret C., Ferrari E., Foulger D.,
RA Entian K.D., Errington J., Fabret C., Ferrari E., Foulger D.,
RA Entian K.D., Errington J., Fabret C., Ferrari E., Foulger D.,
RA Entian K.D., Errington J., Fabret C., Ferrari E., Foulger D.,
RA Filtz C., Fujita M., Fujita Y., Funa S., Galizzi A., Galieron N.,
RA Guiseppi G., Guy B.J., Haga K., Halech J., Harwood C.R., Henaut A.,
Arist S.Y., Glaser P., Goffeau A., Golightly E.J., Grandi G.,
RA Hilbert H., Holsappel S., Hasarara Y., Klaerir-Blanchard M., Klein C.,
RA Hilbert H., Holsappel S., Kasahara Y., Klaerir-Blanchard M., Vlein C.,
RA Kobayashi Y., Koetter P., Konlingstein G., Krogh S., Kumano M.,
RA Kobayashi Y., Koetter P., Mizuno M., Moestl D., Nakai S., Noback M.,
RA Kurita K., Lapidus A., Lardinois S., Lauber J., Lazarevic V.,
RA Kurita K., Lapidus A., Lardinois S., Lauber J., Lazarevic V.,
RA Kurita K., Lapidus A., Jardinois S., Lauber J., Nakai S., Noback M.,
RA Medina N., Mellado R.P., Mizuno M., Moestl D., Nakai S., Noback M.,
RA Moone D., O'Reilly M., Ogawa K., Ogiwara A., Oudega B., Park S.H.,
RA Parro V., Pohl T.M., Portetelle D., Porwollik S., Pescott A.M.,
RA Prescan E., Pujic P., Purnelle B., Rapoport G., Rey M., Reynolds S.,
RA Rieger M., Rajolla E., Roseh B., Roseh B., Schleich S., Schleich S., Schroeter R., Soffone F.,
Schleich S., Schoen B., Tarapic P., Tarapic P., Tarapic P., Tarapic P., Tarapic P., Tarapic P., Ta
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Matches 6
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007011;
01-JUL-1997
01-JUL-1997
01-JUN-2001
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Submitted (JUL-2001) to the
EMBL; AC006733; AARF0484.1;
Hypothetical protein.
SEQUENCE 279 AA; 31829 MW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE F
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=98044033; PubMed=9384377;
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6; Conserv
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7 (TrEMBLIEL 04, 11)
1 (TrEMBLIEL 17, 11)
AL 31.3 KDA PROTEIL
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cosmid Y32H12A.";
cmBL/GenBank/DDBJ databases.
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Last annotation update)
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01-OCT-2000
01-OCT-2000
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-I- FUNCTION: PROBABLY PART OF THE BINDING-PROTEIN-DEPENDENT TRANSPORT
                                                                                                                                                                                                                                                                                   Bacillus/Staphylococcus group; Bacillus.
NCBI_TaxID=86665;
                                                                                                                                                                                                                                                                                                            Bacillus halodurans.
Bacteria; Firmicutes; Bacillus/Clostridium
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EMBL; Z99121; CAB15419.1; -.
InterPro; IPR000515; BPD_transp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Viari A., Wambutt R., Wedler E., Wedler H., Weitzenegger T., Winters P., Wipat A., Yamamoto H., Yamane K., Yasumoto K., Yata K., Yoshikawa H.F., Zumstein E., Yoshikawa H., Danchin A.; "The complete genome sequence of the gram-positive bacterium Bacillus subtilis.";
                                                 EMBL; AP001514; BAB05740.1; -.
InterPro; IPR000515; BPD_transp.
                                                                                                                                                                                                                              STRAIN=C-125 / JCM 9103;
MEDLINE=20512582; PubMed=11058132;
                                                                                                                                                                                                                                                                                                                                                  MALTOSE/MALTODEXTRIN TRANSPORT SYSTEM (PERMEASE).
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                        PROSITE;
                                         Pfam; PF00528;
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                                                                                                                                                                                              Horikoshi K.;
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                                                                                     SYSTEM PROBABLY RESPONSIBLE FOR THE TRANSLOCATION SYSTEM PROBABLY RESPONSIBLE FOR THE TRANSLOCATION SUBSTRATE ACROSS THE MEMBRANE (BY SIMILARITY).
SUBCELLULAR LOCATION: INTEGRAL MEMBRANE COMPONENTS OF OTH SIMILARITY: WITH INTEGRAL MEMBRANE COMPONENTS OF OTH
                                                                             PROTEIN-DEPENDENT TRANSPORT SYSTEMS
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PS00402; BPD_TRANSP_INN_MEMBR; 1.
PS00402; BPD_TRANSP_INN_MEMBR; 1.
Proteome; Hypothetical protein; Transmembrane;
Proteome; Hypothetical protein; Transmembrane;
Proteome; Hypothetical protein; 168D39BCB721CE2E CRC64;
                       00528; BPD_transp; 1.
PS00402; BPD_TRANSP_INN_MEMBR;
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 proteome;
283 AA;
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                                                                                                                                                                                                                      Nakasone
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Transmembrane; Transport. 31353 MW; 2072AF8FC7C00FF8 CRC64;
                                                                                                                                                                                                                      K., Takaki Y.,
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Last annotation update)
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Ogasawara N
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Q9FQ85;
Q1-MAR-2001 (TrEMBLrel. 16, Created)
Q1-MAR-2001 (TrEMBLrel. 16, Last sequence update)
Q1-DEC-2001 (TrEMBLrel. 19, Last annotation update)
PUTATIVE CHLOROPLAST RNA HELICASE VDL' ISOFORM 5 (F
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01-OCT-2000
01-OCT-2000
01-DEC-2001
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"Tobacco VDL Gene Encodes a Plastid DEAD Box RNA Helicase and Is
Involved in Chloroplast Differentiation and Plant Morphogenesis.";
Plant Cell 12:2129-2142(2000).
EMBL: AF261032; AG38497.1; ".
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Asteridae; euasterids I; Solanales; Solanaceae; Nicotiana.
"Complete genome sequence of the alkaliphilic halodurans and genomic sequence comparison with Nucleic Acids Res. 28:4317-4331(2000).
EMBL; AP001511; BAB05105.1: -.
                                                                                                                        Takami H., Nakasone K., Takal
Fuji F., Hirama C., Nakamura
Horikoshi K.;
                                                                                                                                                                                                                   STRAIN-C-125 / JCM 9153;
MEDLINE-20512582; PubMed
                                                                                                                                                                                                                                                                                                                                                                       Bactllus/Staphylococcus
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Bacillus halodurans.
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SMART; SM00487; DEXDC; 1.
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pred. No. 1.6e+02;
0; Mismatches 0;
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Pred. No.
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    Maeno G.
    Ogasawara

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EMBL; AF072726; AAD09875.1; -
EMBL; AP003132; BAB42212.1; -
EMBL; AP003361; BAB57277.1; -
InterPro; IPR003780; COX15_CtaA.
Pfam; PF02628; COX15-CtaA; 1.
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01-NOV-1998
01-NOV-1998
01-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Starvation survival and recovery of CtaA, a putative heme A synthase."; Submitted (JUN-1998) to the
                                                                                                                                                                                                                                                                                                                                                                                                                   Kuroda M., Ohta T., Uchiyama I., Baba T., Yuzawa H., Kobayashi I. Cui L., Oguchi A., Aoki K.-I., Nagai Y., Lian J.-Q., Ito T., Kanamori M., Matsumaru H., Maruyama A., Murakami H., Hosoyama A., Mizutani-Ui Y., Takahashi N.K., Sawano T., Inoue R.-I., Kaito C., Sekimizu K., Hirakawa H., Kuhara S., Goto S., Yabuzaki J., Sawano T., Yabuzaki J., Sekimizu K., Yamashita A., Oshima K., Furuya K., Yoshino C., Shib Hattori M., Ogasawara N., Hayashi H., Hiramatsu K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Staphylococcus aureus (strain N315), and Staphylococcus aureus (strain Nu50). Bacteria; Firmfoutes; Bacillus/Staphylococcus group; Staphylococcus. Bacillus/Staphylococcus group; Staphylococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Interpro; IPR001719; AP_endonulease_2.

Pfam; PF01261; AP_endonulease2; 1.

SMART; SM00518; APZEC; 1.

PR0SITE; PS00729; AP_NUCLEASE_F2_1; 1.

PR0SITE; PS00730; AP_NUCLEASE_F2_2; UN

PR0SITE; PS00731; AP_NUCLEASE_F2_3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SAV1115).
CTAA OR SA0964 OR SAV1115.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SPECIES=S.aureus (strain N315), an MEDLINE=21311952; PubMed=11418146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SPECIES-S.aureus; STRAIN-8325-4; Clements M.O., Watson S.P., Fost
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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NCBI_TaxID=1280, 158879, 158878;
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aureus.":
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                                                                                                             23.1%;
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to the EMBL/GenBank/DDBJ databases
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19, Last annotation update)
(SA0964 PROTEIN) (HYPOTHETICAL
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Q9HBL5;
01-MAR-2001
01-MAR-2001
01-MAR-2001
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01-OCT-2000
01-DEC-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                Dicken S., Koetter P., Entian K.;
"Characterization of CAT8 of Candida albicans.
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ
EMBL; AF222908; AAF35322.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-ADRENAL GLAND;
Xiao H., Song H., Gao G., Ren S., Chen Z., Han
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ (
EMBL; AF225422; AAG09724.1; -
  Q9DB26
                                                                                                                                                                                                                                                                                      PROSITE; PS01155; ENDONUCLEASE_III_2; UNKNOWN_1
NON_TER 311 31 311
SEQUENCE 311 AA; 35180 MW; 59908B89859C0B71
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PF00730; HhH-GPD; 1.
SM00478; ENDO3C; 1.
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Therea; Chordata;
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PRT;
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No. 1.8e+02;
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C 099R9;
O1-JUN-2001 (TrEMBLIGH. 17, Last of 17, Last of 17, Last of 17, Last of 18, Last of 19, Last of 18, Last of 
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A Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
A Asito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
A Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
Itlischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
A Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
A Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
A Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barah G.,
A Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barah G.,
Barownstein M.J., Bult C., Fletcher C., Fulita M., Gariboldi M.,
Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
A Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
A Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
Sasaki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
A Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
A Mynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
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Best Local
SPĒCIES-S.aureus (strain N315) and S.aureus (strain Mu50);
MEDLINE-21311952; PubMed-11418146;
Kuroda M., Ohta T., Uchiyama I., Baba T., Yuzawa H., Kobayashi
Cui L., Oguchi A., Aoki K.-I., Nagai Y., Lian J.-Q., Ito T.,
Kanamori M., Matsumaru H., Maruyama A., Murakami H., Hosoyama
Mizuttani-Ui Y., Takahashi N.K., Sawano T., Inoue R.-I., Kaito
Sekimizu K., Hirakawa H., Kuhara S., Goto S., Yabuzaki J.,
Kanehisa M., Yamashita A., Oshima K., Furuya K., Yoshino C., S
Hattori M., Ogasawara N., Hayashi H., Hiramatsu K.;
Whole genome sequencing of meticillin-resistant Staphylococcu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-UN-2001 (TrEMBLrel. 17, Created)
01-UN-2001 (TrEMBLrel. 17, Last Sequence update)
01-UN-2001 (TrEMBLrel. 17, Last annotation update)
ADULT MALE CEREBELLUM CDNA, RIKEN FULL-LENGTH ENRICHED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hayashizaki Y.; "Functional annotation of a full-length mouse cDNA collection."; Nature 409:685-690(2001).
EMBL; AK005293; BAB23937.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10090;
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Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus (Mouse).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TrEMBLrel. 17, Created)
(TrEMBLrel. 17, Last sequence update)
(TrEMBLrel. 19, Last annotation update)
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Pred. No.
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No. 1.8e+02;
O;
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     Staphylococcus
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                                                                                                                                                                                                                                                                                                                                                                Kobayashi I.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                              Shiba
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RESULT OF COLOR OF CO
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Search completed: June 19, 2002, 11:11:05 Job time: 204 sec
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                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aureus.";
Lancet 357:1225-1240(2001).
EMBL; AP003136; BAB43375.1; -.
EMBL; AP003364; BAB58445.1; -.
EMBL; AP003364; BAB58445.1; -.
InterPro; IPR001910; IUNH.
Pfam; PF01156; IU_nuc_hydro; 1.
ProDom; PD007736; IUNH; 1.
Complete proteome; Hypothetical protein.
Complete proteome; Hypothetical protein.
SEQUENCE 313 AA; 35362 MW; E335FAF497CB755A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wang Y., Duby G., Purnelle B., Boutry M.;
"Tobacco VDL Gene Encodes a Plastid DEAD Box RNA Helicase and Is
Involved in Chloroplast Differentiation and Plant Morphogenesis.";
Plant Cell 12:2129-2142(2000).
EMBL; AF261032; AAG38496.1; -.
InterPro; IPR001410; DEAD.
Pfam; PF00270; DEAD; 1.
SMART; SM00487; DEXDC; 1.
ATP-hinding: Helicase
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O9FO84;

O1-MAR-2001 (TrEMBLrel. 16, Created)

O1-MAR-2001 (TrEMBLrel. 16, Last sequence update)

O1-DEC-2001 (TrEMBLrel. 19, Last annotation update)

PUTATIVE CHLOROPLAST RNA HELICASE VDL' ISOFORM 4 (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nicotiana tabacum (Common tobacco).

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Trachcophyta;
Spermatophyta; Magnollophyta; endicotyledons; core endicots;
Asteridae; enasterids I; Solanales; Solanaceae; Nicotiana.
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MEDLINE-20541613; PubMed-11090214;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATP-binding; Helicase.
NON_TER 324 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
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                                                                                                                                                                  LLVDFL 311
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                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      36250 MW;
                                                                                                                                                                                                                                                                                            23.1%; Score 6; DB 10; I
100.0%; Pred. No. 1.9e+02;
Live 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                 Length 324;
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Result
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                 Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein search, using sw model
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2: \SIDSI/gcgdata/hold-geneseq/geneseqp-embl/AA1981.DAT:
3: \SIDSI/gcgdata/hold-geneseq/geneseqp-embl/AA1981.DAT:
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Copyright (c) 1993 - 2000 Compugen Ltd
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Rabbit CETP immuno
Human cholesteryl
Modified MVF Th ep
Modified MVF Th ep
Human cholesteryl
Human mature chole
Human cholesteryl
Partial human tip
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Human cholesteryl
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AAW6613 AAW46445 AAW02467 AAW31066 AAU17886 AAU17886 AAU07716 ABG07716 ABG07716 ABG07716 AAR54202 ABG15687 AAR54202 ABG15687 AAR54202 ABG15687 AAR652878 AAR51836 AAR51836 AAR51836 AAR527036 AAR51836 AAR673544 AAR71850 AAR673544 AAV71866 AAR67366 AAR67766	266124603999999999999999999999999999999999999

Mature rabbit cholesteryl Mature rabbit cholesteryl Rabbit cholesteryl

Rabbit CETP immuno
Rabbit CETP immuno
Human cholesteryl
Modified MVF Th ep
Anti-cholesteryl
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Modified rabbit ch

Anti-cholesteryl e Fusion of a tetanu Modified HBVSurfac Modified MVF Th ep Modified MVF Th ep Modified MVF Th ep Anti-cholesteryl e Human/Rabbit CETP Human Cholesteryl

Rabbit CETP immuno Human CETP immunog Humanised rabbit c

ALIGNMENTS

Human secreted pro
Human novel endocr
Human polypeptide
Novel human secrete
Novel human diagno
Human secreted pro
Human secreted pro
Human polypeptide
Sequence of new mo
Interferon-alpha-7

Peptide #11725 enco Protein #9095 enco Human brain express Human bone marrow Peptide #8284 enco Peptide #12211 enco Human colon cancer Amino acid sequenc Peptide #11759 enco Protein #9125 enco Protein #9125 enco Human brain express Human express Huma

RESULT 1 AAW06128 ID AAW06128 standard; Peptide; 26 AA. XX

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RESULT
AAX13801
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                             of human liver mature cholestery! ester transfer protein (CETP) (see also AAW06127) is involved in a neutral lipid binding or a transfer activity of CETP. It can be linked to a universal or broad range immunogenic T-cell epitope, such as that found at amino acids 830-843 of tetanus toxoid protein, to produce a synthetic vaccine (see also AAW06129) that elicits an immune response against endogenous CETP activity, thereby treating or preventing cardiovascular disease, such as atherosclerosis. It may also be incorporated into a multivalent vaccine (see also AAW06131) including another come accelerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cholesteryl ester transfer protein; CETP; antigen; vaccine; cardiovascular disease; atherosclerosis; B-cell epitope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cholesteryl ester transfer protein B cell epitope linked to T cell epitope - used to generate vaccine to regulate CETP activity for decreasing the risk of developing a cardiovascular disease e.g. \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human cholesteryl ester transfer protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-FEB-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAW06128;
                                     CETP; cholesteryl-ester transfer protein; recombinant DNA antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAY-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A B-cell epitope (AAW06128) comprising the C-terminal 26 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 5; Page 41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rittershaus CW,
           Oryctolagus sp.
                                                                                                          Rabbit CETP
                                                                                                                                    08-JUL-1999
                                                                                                                                                              AAY13801;
                                                                                                                                                                                       AAY13801 standard;
                                                                                                                                                                                                                                                                                                                                                                            Sequence
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                                                                                                                                                                                                                                                                                                               26;
                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                         another CETP B-cell epitope.
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                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                          immunogenic fragment
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  72pp;
                                                                                                                                                                                       peptide;
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3.1e-17;
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Matches 26
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                                                                                                                                                                                                                                                                                                                                     Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone; LRH; contraceptive; antivancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; PMDV; foot and mouth disease virus; immunoglobulin E; IGE; anti-allergic; plasmodium falciparum; circumsporozotie; antimalarial; CETP; hostotic; antipatrial; cetor traceptor; antipatria
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human cholesteryl transport protein (CETP) peptide,
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                          (UNBI-) UNITED BIOMEDICAL INC
                                                                                                                                                                                                                      WO9966957-A2
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                                                                                                                                                                                                                                                                                                                     cholesteryl
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                                                                                                                       21-JUN-1999;
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                                                                                                                                                                                                                                                                                                                     transport protein;
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RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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100.0%; Score 26; DB 21; 100.0%; Pred. No. 3.1e-17;

Length 26;

9

Sequence

A

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The Invention relates to novel promiscuous T helper cell epitopes (Th), and Immunogenic peptides comprising the The aptropes of the invention calling with B cell apitopes. The The epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against plasmodium faiciparum. Chipser cell response, protein (CETP) or HIV epitopes, but more generally against any pathogen, immunogens may be used for prevention and/or treatment of infections (HIV, foot and-mouth disease or malaria); for cencer immunocatrations (HIV) foot and-mouth disease or malaria); for cencer cimmunocatration; for promoth disease or malaria); for cencer immunocatration; for promoth disease or malaria); for cencer cimmunocatration; for promothing the growth of animals; or for treatment of peptides immunocatration; for promothing the growth of animals; or for treatment peptides or arterlesclerosis. Incorporation of a promiscuous This functional in genetically diverse subjects) into an immunocatration; for promothing the growth of animals; or for treatment peptides or arterlesclerosis. Incorporation of a promiscuous This promone of the interest of the promone of the promothing the growth of animals; or for treatment of peptides and interest of the promothing the growth of animals; or for treatment of induce a strong Thelper cell mediated immune animals; or for treatment of induce a strong Thelper cell mediated immune animals; or for treatment of induce a strong Thelper cell mediated immune animals; or for treatment of induce a strong Thelper cell mediated immune animals; or for treatment of animals; or for treatment of animals; or supplies and anyli125 are synthetic epitopes derived from this HIV per epitope. Anyli125 are synthetic epitopes and anyli209-y92011 are mitigenic peptides which may be used in the treatment of alterglas. Why Th epitope Anyli127 and Anyli247-y124 and Anyli209-y9211 are WH Th epitopes. Anyli227-y1213 is an anditied version of a human igs (CETP-derived peptides which may be used in th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 10; Page 49; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2000-160564/14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antigenic site,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New artificial T helper cell epitope and derived immunogens with target
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               c site, for immunization against e.g. malaria, arteriosclerosis
immune deficiency virus
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Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic: B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antivital; FMDV; foot and mouth disease virus; immunoglobulin E: JgE; anti-allergic; plasmodium falciparum; circumsporozoite; antimalarial; CETP;
WPI; 2000-160564/14.
                                                                                                                 (UNBI-) UNITED
                                                                                                                                                                                                                                         21-JUN-1999;
                                                                                                                                                                                                                                                                                                  29-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chimeric - Measles virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cholesteryl ester transport protein; anti-arteriosclerotic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Modified MVF Th epitope/CETP peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY91232 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4
                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                    BIOMEDICAL INC
                                                                                                                                                                                98US-0100412.
                                                                                                                                                                                                                                         99WO-US13975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NO:110
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or human immune deficiency virus New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis

Claim 11; Page 104; 129pp; English.

CC protein (CETP) or HIV epitopes, but more generally against any pathogen, CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactions (HIV, foot-and-mouth disease or malaria); for cancer contraction of intetions of for cancer contraction of intetions of for cancer contraction of the action of intetions of hormone-CC dependent cancer, prevention of boar taint in meat, and CC immunocastration); for promoting the growth of animals; or for creating allergies or arteriosclerosis. Incorporation of a promiscuous CC improves capacity to induce a strong Thelper cell-mediated immunogen (classification) in production of antibodies against a target antigen. Th can replace carrier proteins and pathogen-derived Thelper cell-mediated immune CC entities. Sequence ANY91121 represents a promiscuous Thelper epitope (classification) in the measies virus F (AVF) protein and sequences ANY91122-Y91142. CC ANY91226 and ANY91245-Y91246 represents a promiscuous Thelper epitope CC from the measies virus F (AVF) protein and sequences ANY91122-Y91142. CC ANY91144-Y91155 are synthetic epitopes derived from this HBV epitope. CC ANY91144-Y91155 are synthetic epitopes derived from this HBV epitope. CC CANY91165-Y91196, ANY91227 and ANY91207-19124 are antigenic peptides comprising somatostatin, and ANY91201-Y91207 are antigenic cc peptides comprising somatostatin and antigenic and ANY91208 is a human CD4 CDR2-like domain antigenic site, and ANY91209-Y90211 are MVH Th along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a Thelper cell response, specifically against plasmodium falciparum, cholesteryl ester transport The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention

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CC antigenic peptides which may be used in the treatment of allergies.

CC ANY91220 is a peptide derived from foot and mouth disease virus (FMDV)

CC VP1 capsid protein and AAX91221 Y91222 comprise this peptide and a Th

CC epitope. ANY91223 is a plasmodium falciparum circumsporozoite (CS) target

CC antigen, and AAY91224-Y91225 comprise the CS antigen and an MVF Th

CC epitope and may be used in a malaria vaccine. AAX91228-Y91231 represent

CC ETP- derived peptides and AAY91232-Y91241 are immunogens comprising a

CC CTP peptide and a Th epitope which may be used to prevent or treat

CC are HTV-1 neutralising B-cell epitopes, and AAY91247 and AAV91257-Y91257

CC AAY91258-Y91273 are antigenic peptides comprising WH Th and HTV-1 B-cell

CC AAY91298 and AAY91199 are respectively an immunostimulatory invasin

CC protein epitope from Yersinia species, and hinge spacer peptide, both of

CC invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    epitope/CD4 CDR2 antigenic peptides which may be used to prevent HIV infection of T cells. AAY90212 is a modified version of a human IgE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antivital; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; plasmodium falciparum; circumsporozoite; antimalarial; CETP; plasmodium falciparum; circumsporozoite; antimalarial; CETP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
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Claim 11; Page 104-105; 129pp; English
                                                                           New artificial T helper cell epitope and antigenic site, for immunization against or human immune deficiency virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chimeric -
Chimeric -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cholesteryl ester transport protein; anti-arteriosclerotic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAY91233 standard;
                                                                                                                                                                                                    WPI; 2000-160564/14.
                                                                                                                                                                                                                                                                                                                      (UNBI-) UNITED
                                                                                                                                                                                                                                                                                                                                                                                     20-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                21-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-DEC-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Modified MVF Th epitope/CETP peptide, SEQ ID NO:111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Measles virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                          BIOMEDICAL INC
                                                                                                                                                                                                                                                                                                                                                                                     98US-0100412
                                                                                                                                                                                                                                                                                                                                                                                                                                                99WO-US13975
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           peptide; 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 26; DB 21;
Pred. No. 5.1e-17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                               e.g. malaria, arteriosclerosis
                                                                                                                                            derived immunogens with target
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 46;
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В

21

rdgflllqmdfgfpehllvdflqsls 46

1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26

AAW06127

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AAW06127

standard;

Protein;

XXXXXXXX

07-FEB-1997

(first entry)

Human cholesteryl ester transfer protein

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CC antigen. The can replace carrier proteins and pathogen entered to propes Sequence ANY91121 represents a promiscuous Thelper epitope compiles. Sequence ANY91121 represent synthetic The proteins and sequences ANY91122-Y91142.

CC ANY9126 and ANY91245-Y91246 represent synthetic Thepitopes based on the CC MYF Thepitope. Sequence ANY9143 represents a promiscuous Thelper epitope compiles are synthetic epitopes derived from this HBV epitope. ANY91126-Y91155 are synthetic epitopes derived from this HBV epitope. CC ANY91144-Y91155 are synthetic epitopes derived from this HBV epitope. CC ANY91144-Y91155 are synthetic epitopes derived from this HBV epitope. CC any91166-Y91196, ANY91207 and ANY91202-Y91244 are antigenic peptides. ANY91209 is sometostatin, and ANY91201-Y91207 are antigenic comprising an LHRH sequence promote growth in livestock. ANY91208 is a commission of the composition of the composi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CC The invention relates to novel promiscuous T helper cell epitopes (Th), can and immunogenic peptides comprising the Th epitopes of the invention CC along with B cell epitopes. The Th epitopes and peptide immunogens CC containing them, are used to induce a T helper cell response, containing them, are used to induce a T helper cell response. CC pecifically against plasmodium falciparum, cholesteryl ester transport CC immunocreactive self-antigen or tumour antigen. The Th epitopes and CC immunocreactive self-antigen or tumour antigen. The Th epitopes and CC peptide immunogens may be used for prevention and/or treatment of cc infections (HIV, foot-and-mouth disease or malaria); for cancer CC infections (HIV, foot-and-mouth disease or malaria); for cancer CC releasing hormone (LHRH) for contraception, treatment of hormone-CC dependent cancer, prevention of boar taint in meat, and CC treating allergies or arteriosclerosis. Incorporation of a promiscuous CC treating allergies or arteriosclerosis. Incorporation of a promiscuous CC improves capacity to induce a strong T helper cell-mediated immune contrace, resulting in production of anthocales against a target antican Theory and the promiscuous capacity are capacity to rendering and parthocal and capacity and production of anthocales against a target capacity and production and production and production of anthocales against a target capacity of a production of anthocales against and parthocal capacity of anthocales against and parthocales against and
Matches
                               Query Match
Best Local Similarity
                                                                                                                                                                           Sequence
                                                                                                                                                                           46
Conservative
                               100.0%;
0;
                               Score 26; I
Pred. No. 5.
Mismatches
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                               .le-17;
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                                                                      Length 46;
Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cholesteryl ester transfer protein B cell epitope linked to T cell epitope - used to generate vaccine to regulate CEPP activity for decreasing the risk of developing a cardiovascular discase e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cholesteryl ester transfer protein; CETP; antigen; vaccine; cardiovascular disease; atherosclerosis.
                                                                                                                                                                                                                                                                                                                                                                      Human liver mature cholesteryl ester transfer protein (CETP) (AAW06127) plays a role in altering the relative profile of circulating lipoproteins to one associated with an increased risk of cardiovascular disease. B-cell epitopes (see also AAW06128) of CETP can be used in novel peptide vaccines (see also AAW06129, AAW06131) that elicit an immune response against endogenous CETP activity,
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 2; Page 44-47; 72pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rittershaus CW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TCEL-) T CELL SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                     transfer activity; immunogenic; B cell epitope; antibody; TP2DNA plasmid-based vaccine; broad range helper T cell epitope;
                                           Cholesteryl ester transfer protein; CETP; cholesteryl ester; VLDL; high density lipoprotein; HDL; very low density lipoprotein; LDL; atherosclerosis; neutral lipid binding;
                                                                                         Human mature cholesteryl ester transfer protein (CETP).
                                                                                                                18-MAY-1998
                                                                                                                                       AAW46446
                                                                                                                                                            AAW46446 standard;
                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                 atherosclerosis.
                                                                                                                                                                                                                                                                                                                                                           thereby treating or preventing cardiovascular disease,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Region
           treatment; cardiovascular disease
                                                                                                                                                                                                                     451
                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                    7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1996-506103/50
                                                                                                                                                                                                                                                                                                                          476
                                                                                                                                                                                                                                                               100.0%;
ilarity 100.0%;
Conservative (
                                                                                                               (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95US-0432483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96WO-US06147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= B-cell_epitope
/note= "C-terminal epitope involved in neutral
lipid binding or a transfer activity of
CETP (Claim 5)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label= B-cell_epitope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Thomas LJ
                                                                                                                                                            Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lon/Qualifiers
                                                                                                                                                              476
                                                                                                                                                                                                                                                                 0,
                                                                                                                                                                                                                                                                            Score 26;
Pred. No.
                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                 DB 17;
3.9e-16;
les 0;
                                                                                                                                                                                                                                                                                      Length 476;
                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                             such as
                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                  Gaps
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ID AAY
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                                                                                                                                                                                                                                 Matches
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Best Local
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CC high density lipoprotein (HDL) to very low density lipoprotein (VDL) and consity lipoprotein (HDL) to very low density lipoprotein (LDL). An increased CETP activity composed consity lipoprotein (LDL), an increased CETP activity of the human CETP heads to Leu475), and also consity lipoprotein in the human CETP heads to Leu475), and also consity lipoprotein profile and induces atherosclerosis. A 13 amino acid stretch in the human CETP heads to Leu475), and also consity lipoprotein profile and induces atherosclerosis. Can be acid stretch in the particularly important for neutral lipid binding and consistent activity. This region has been shown to be immunogenic as a B consity lipoprotein for neutral lipid transfer. A second B cell epitope is defined by Arg349 to 112367. Antibodies to this second epitope concluded a low the formation of immune complexes involving CETP, and promote the removal of the complexed CETP. This peptide region was selected for constitute CETP. Sequences encoding these 2 epitopes can be used in a DNA collaboration which comprises sequences encoding at least 1 B collaboration of CETP linked in frame with at least one segment encoding constitutes and promote constitution of circulating HDL to circulating LDL, VLDL or total challed the frament of circulating HDL to circulating LDL, VLDL or total considerable in vivo and for treating cardiovascular disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 6; Pages 36-38; 67pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA plasmid-based vaccine encodes CETP B cell and helper T cell epitope(s) - used for elevating high density lipoprotein levels,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-FEB-1997;
01-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAY-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence represents a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1997-549731/50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (TCEL-) T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 for treating cardiovascular disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAV05127
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476
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96US-0640713
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    human mature cholesteryl ester transfer
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Ouery Match 100.0%; Score 26; DB 18; Length 476;
Best Local Similarity 100.0%; Pred. No. 3.9e-16;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps

1 RDGFLLLONDFGFPEHLLVDFLOSLS 26
y 1 RDGFLLLONDFGFPEHLLVDFLOSLS 26
b 451 rdgfllldmdfgfpehllvdflqsls 476
b 451 rdgfllldmdfgfpehllvdflqsls 476

AY02466
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AAY02466 standard; protein; 476 AA

14-JUL-1999 (first entry)

Human cholesteryl ester transfer protein (CETP).

KW Vaccine; antibody; endogenous; cholesteryl ester transfer protein; CETP; KW high-density lipoprotein-associated cholesterol; metabolism; Low-density lipoprotein-associated cholesterol; atherosclerofic lesion; KW cholesterol; atherosclerosis; heart disease.

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ARRESULT
ARAGOJ42
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antibodies that bind endogenous cholesteryl ester transfer protein (CETP). The vaccines (and equivalent plasmid-based vaccines) are used to increase the ratio of circulating high-density lipoprotein (HDL)-associated cholesterol to low-density lipoprotein (HDL)-associated cholesterol to low-density lipoprotein (HDL)-associated cholesterol of endogenous CETP activity in humans or other animals; to alter metabolism of LDL-associated cholesterol, for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         inhibiting development of atherosclerotic lesions; to lower circulating levels of LDL and total cholesterol; and to treat or prevent atherosclerosis (or more generally heart disease). The present sequence represents human CETP.
                                                                                                                                                                                                                                                                                                                                                                                                                         Partial human Lipid transfer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page 44-46; 61pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vaccine
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                         Peptide
                                                                                             Peptide
                                                                                                                                                                 Peptide
                                                                                                                                                                                                                                        Peptide
                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                          antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR60342;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAR60342 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The specification describes a vaccine that promotes the production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1999-302645/25
                                                                                                                                                                                                                                                                                                                                                     transfer protein; LTP; monoclonal antibody; immunoassay;
en determining group.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   against cholesteryl ester transfer
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                      /label = peptide 3
/note = "claim 1; antigen 303..322
                                                                                             /label= peptide 2
/note= "claim 1; antigen
275...288
                                                                                                                                                                    /note-
209..22
                                                                                                                                                                                                                                        Location/Qualifiers 16..43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Thomas
                                                                                                                                                                                                               /label= peptide 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entry)
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                                                                                                                                                                                        "claim 1; antigen
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peptide
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Pred. No. 3.9
0; Mismatches
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                                                  determining group
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20;
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Best Local
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                                                                                                                                                                                Human; coding sequence polymorphism; vascular pathology polymorphic site; phenotype correlation; forensic; pater medicine; genetic analysis; vascular disease.
                                                                                                                                                                                                                                                                                                                                                                                                             This sequence shows a partial human lipid transfer protein, containing specific peptide groups that are antipen determining. monoclonal antibody of the invention recognises any of these peptides. The MAD can be used in an immunoassay for HLTP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-DEC-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peptide
                                                                                                                                 07-OCT-1999.
                                                                                                                                                  WO9950454-A2
                                                                                                                                                                                                                    Human cholesteryl ester transfer protein sequence
                                                                                                                                                                                                                                      13-JAN-2000
                                                                                                                                                                                                                                                      AAY49556;
                                                                                                                                                                                                                                                                      AAY49556 standard;
                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Fig 1; 14pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         useful for immunoassay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A monoclonal antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1994-237601/29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (EIKE ) EIKEN KAGAKU KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-DEC-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-JUN-1994.
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                                  N-PSDB;
                                                           Lander
                                                                            (WHED )
                                                                                              01-APR-1998;
                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                26-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                        10
                                  1999-620066/53
DB; AAZ32165.
                                                           ES,
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                                                                             WHITEHEAD INST BIOMEDICAL
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                                                           Daley
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                                                                                             98US-0054272
                                                                                                               99WO-US06473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note- "claim 1;
360..370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label- peptide 9
/note- "claim 1;
                                                           GO,
                                                                                                                                                                                                                                                                       Protein;
                                                                                                                                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                recognising human lipid transfer protein
                                                           Cargill M,
                                                                                                                                                                                                                                                                        493
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                                                                                                                                                                                                                                                                                                                                                             Pred.
                                                                                                                                                                                                                                                                                                                                                             Score 26;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                    Mismatches
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                                                                              RES.
                                                            Ireland
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Determination of polymorphisms in genes, predisposition to vascular disease

especially those identifying

predisposition

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AAY49568
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Best Local S
Matches 26
                            from 92 single nucleotide polymorphisms in which the nucleotide at the polymorphic site is different from a nucleotide at the same site in a reference allele. The nucleic acids, and primers and probes, are used tidentify polymorphisms, which may predispose an individual to disease, especially a vascular disease. They can also be used in phenotype correlations, forensics, paternity testing, medicine or genetic
correlations, forensics, paternity testing, medicine or genetic analysis. ANY49550 to ANY49573 represent the proteins which correspond to some of the reference alleles.
                                                                                                               AA232159 to AAZ32194 represent reference alleles for specifically claimed nucleic acid sequences from the present invention which comprise polymorphic sites as given in a table in the specification, selected from 92 single nucleotide polymorphisms in which the nucleotide at the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   from 92 single nucleotide polymorphisms in which the nucleotide at the polymorphic site is different from a nucleotide at the same site in a reference allele. The nucleic acids, and primers and probes, are used to identify polymorphisms, which may predispose an individual to disease, especially a vascular disease. They can also be used in phenotype correlations, forensics, paternity testing, medicine or genetic analysis. AAY49550 to AAY49573 represent the proteins which correspond
                                                                                                                                                                                      Disclosure; Fig 32; 134pp; English.
                                                                                                                                                                                                                     Determination of polymorphisms in predisposition to vascular disease
                                                                                                                                                                                                                                                                                                                                                                                                                                          07-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; coding sequence polymorphism; vascular pathology gene; polymorphic site; phenotype correlation; forensic; paternity testing; medicine; genetic analysis; vascular disease.
                                                                                                                                                                                                                                                                      N-PSDB;
                                                                                                                                                                                                                                                                                                                   Lander
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         polymorphic sites as given in a table in the specification, selected from 92 single nucleotide polymorphisms in which the nucleotide at t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure;
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DB; AAZ32188.
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                                                                                                                                                                                                                                                                                                                                               ) WHITEHEAD INST BIOMEDICAL
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                                                                                                                                                                                                                                                                                                                  ES,
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                                                                                                                                                                                                                                                                                                                Daley GQ,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ester transfer protein sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Protein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               represent reference alleles for specifically sequences from the present invention which comprise
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   represent
                                                                                                                                                                                                                                                                                                                Cargill M,
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                                                                                                                                                                                                                      disease
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Pred. No.
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                                                                                                                                                                                                                                    genes,
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4e-16;
                                                                                                                                                                                                                                  especially those identifying
                                                                                                                                                                                                                                                                                                                JS,
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AAG65636
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                                                                 in a subject that involves detecting mutations in the gene for cholesterol ester transfer protein (CETP) related to the degree of arteriosclerosis. The mutant proteins alter the level of HDL in blood. The high frequency mutations can be detected for prevention treatment of arteriosclerosis. The present sequence represents a
                                            Sequence
                                                                                                            The invention relates to detecting the risk factor for arteriosclerosis
                                                                                                                                               Determining a risk mutations in genes
                                                                                                                                                                        N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                  high
                                                                                                                             Disclosure; Page 43-47; 58pp; Japanese
                                                                                                                                                                                                                                             24-MAR-2000;
                                                                                                                                                                                                                                                            23-MAR-2001; 2001WO-JP02327
                                                                                                                                                                                                                                                                                                                                                  Key
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                                                                                                                                                                                                   Matsuzawa
                                                                                                                                                                                                                            (BMLB-) BML
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                                                                                                                                                                                                                                                                                                                        Protein
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                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                           Human
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                 2001-611516/70
                                                                                                                                                                                                                                                                                                                                                                                density lipoprotein; human.
                                                            CETP
                                                                                                                                                                                                                                                                                                                                                                                        arteriosclerosis; cholesterol ester transfer protein; HDL;
                                                                                                                                                                                                                                                                                                                                                                                                         cholesterol ester transfer protein (CETP).
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         Similarity
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for cholesterol ester transfer
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RESULT 13
AAY13815
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Best Local S
Matches 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Glenn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CETP; cholesteryl-ester transfer protein; recombinant DNA vaccine; HDL; antibody production; cholesteryl ester transfer; therapy;
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                        Human CETP immunogenic fragment.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     high density lipoprotein; HDL cholesterol concentration; pro-atherogenic dyslipoproteinaemia.
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                                                                          AAY13821;
                                                                                                  AAY13821 standard;
                                                                                                                                                                                                                                                                             Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New recombinant DNA vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (MONS ) MONSANTO CO
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                                                                                                                                                            5 LLLOMDFGFPEHLLVDFLQSLS
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cholesteryl-ester transfer protein; recombinant DNA vaccine;
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22; Conserv
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RESULT 1
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Matches 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 88; 99pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New recombinant DNA vaccines
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                                                                                                                                                                Oryctolagus sp
                                                                                                                                                                                                                                                       Vaccine; antibody; endogenous; cholesteryl ester transfer protein; CETP; high-density lipoprotein-associated cholesterol; metabolism; low-density lipoprotein-associated cholesterol; atherosclerotic lesion;
                                                                                                                                                                                                                                                                                                                                                          Humanised rabbit cholesteryl ester transfer protein (CETP).
                                                                                                                                                                                                                                                                                                                                                                                                     14-JUL-1999
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                      20-OCT-1998;
                                                                       29-APR-1999
                                                                                                                                                                                       Synthetic
                                                                                                                                                                                                                                       cholesterol; atherosclerosis; heart disease.
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                                                                                                                  WO9920302-A1
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                         98WO-US22145
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100.0%; Pred. No.
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(AVAN-) AVANT IMMUNOTHERAPEUTICS INC

20-OCT-1997;

97US-0954643

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone; LHRH; contracep;ive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; foot and fine triple in the strength of the strength of
New artificial T helper cell epitope and derived immunegens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis or human immune deficiency virus -
                                                                                                               WPI; 2000-160564/14
                                                                                                                                                                                                                                                                                    20-JUN-1998;
                                                                                                                                                                                                                                                                                                                                        21-JUN-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human cholesteryl transport protein (CETP) peptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAY91229
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
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1.8e-12;
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Claim 10; Page 50; 129pp; English
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CC immunogens may be used to promote growth in livestock. ARY91208 is a CC human CD4 CDR2-like domain antigenic site, and ARY91209-Y90211 are MVH The CC epitope/CD4 CDR2 antigenic peptides which may be used to prevent HIV CC infection of T cells. ARY90212 is a modified version of a human IgE CC (immunoglobulin B) CH3 domain, and ARY90213-Y90219 are Th epitope/IgE CH3 cantigenic peptides which may be used in the treatment of allergles. CC ARY91220 is a peptide derived from foot and mouth disease virus (FMDV) CC VP1 capsid protein and ARY91221-Y91222 comprise this peptide and a The CC epitope, ARY91223 is a plasmodium falciparum circumsporzoite (CS) target CC antigen, and ARY91224-Y91225 comprise the CS antigen and an MVF The CC epitope, ARY91223-Y91225 comprise the CS antigen and an MVF The CC epitope and may be used in a malaria vaccine. ARY91228-Y91231 represent CC erro-derived peptides and ARY91232-Y91241 are immunogens comprising a CC CETP peptide and a Thepitope which may be used to prevent or treat CC arteriosclerosis and cardiovascular disease. ARY91247 and ARY9125-Y91257 CC are HIV-1 neutralising B-cell epitopes, and ARY9128-Y91251 and CC ARY91258-Y91273 are antigenic peptides comprising MVH Th and HIV-1 B-cell CC protein epitope from Yersinia species, and hinge spacer peptide, both of CC which may optionally be used in the antigenic peptides of the cc protein (CETP) or HIV epitopes, but more generally against any pathogen, communoreactive self-antigen or tumour antigen. The Th epitopes and competitions (HIV, foot-and-mouth disease or malaria); for cancer infections (HIV, foot-and-mouth disease or malaria); for cancer communotherapy; for inhibition of the action of luteinising hormone (LHRH) for contraception, treatment of hormone commone (LHRH) for contraception, treatment of hormone commone contraception, treatment of hormone commone contraception, treatment of hormone commone co The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against plasmodium falciparum, cholesteryl ester transports specifically against plasmodium falciparum, cholesteryl ester transports.

Sequence 16

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8
                                                                                           Matches
                                                                                                    Best
                                                                                                          Query Match
AAW06129
                AAW06129
                                                                        11 FGFPEHLLVDFLQSLS 26
                                                                                                    Local
                                                         1 fgfpehllvdflqsls
                                                                                         l Similarity
16; Conserv
                standard;
                                                                                           Conservative
               Peptide; 31 AA
                                                                                                   61.5%;
                                                          16
                                                                                                    .0%;
                                                                                           0
                                                                                                   Score 16;
Pred. No.
                                                                                           Mismatches
                                                                                                   DB 21; 1
2.8e-08;
                                                                                                          Length 16;
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                                                                                           Gaps
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0,

07~FEB-1997

(first entry)

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AAY02470
ID AAY0
XX
AC AAY0
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AC AAY1
XX
AC Fusi
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                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                               Matches
                                                                                                                                                                                                                                A synthetic peptide vaccine comprises an immunogenic helper T-cell epitope of tetanus toxoid protein covalently linked to the C-terminal B-cell epitope of human cholestery! ester transfer protein (CETP) (see also AAW06127) that is involved in a neutral lipid binding or a transfer activity of CETP. The vaccine elicits an immune response against endogenous CETP activity, and is used to treat or prevent a cardiovascular disease, such as atherosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                      WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cardiovascular disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cholesteryl
                                                                                                                                                                                                                                                                                                                                              Cholesteryl ester transfer protein B cell epitope linked to T cell epitope - used to generate vaccine to regulate CETP activity for decreasing the risk of developing a cardiovascular disease e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Misc-difference
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Region
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                                                                                                                                                                                                                                                                                                                   Claim
                                                                                                                                                                                                                                                                                                                                      atherosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                           Rittershaus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO9634888-A1
         Fusion of a
                               14-JUL-1999
                                                   AAY02470;
                                                                       AAY02470 standard; protein;
                                                                                                                                                                                                                Sequence
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                                                                                                                                          11 FGFPEHLLVDFLOSLS 26
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                                                                                                                                                                                                                                                                                                                                                                                        1996-506103/50
                                                                                                                      fgfpehllvdflqsls
                                                                                                                                                                                                                                                                                                                  8; Page 41-42; 72pp; English.
                                                                                                                                                               16;
                                                                                                                                                                          Similarity
                                                                                                                                                                                                                31
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                                                                                                                                                               Conservative
           tetanus
                             (first entry)
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amino acids of of
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830-843 of tetanus
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            fragment
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                                                                                                                                                                         Score 16;
Pred. No.
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            and C-terminal of human CETP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        residue
peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                comprises the C-terminal human CETP (Claim 5)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  comprises
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5e-08;
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                                                                                                                                                                  Gaps
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Best Loc
Matches
                           Query Match
                                                                                                               The specification describes a vaccine that promotes the production of antibodies that bind endogenous cholesteryl ester transfer protein (CETP). The vaccines (and equivalent plasmid-based vaccines) are used to increase the ratio of circulating high-density lipoprotein (HDL)-associated cholesterol to low-density lipoprotein (LDL)-associated cholesterol; to decrease the level of endogenous CETP activity in humans or other animals; to alter metabolism of LDL-associated cholesterol, for inhibiting development of atheroscierotic lesions; to lower circulating levels of LDL and total cholesterol; and to treat or prevent atheroscierosis (or more generally heart disease). The present sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vaccine; antibody; endogenous; cholesteryl ester transfer protein; CETP; high-density lipoprotein-associated cholesterol; metabolism; low-density lipoprotein-associated cholesterol; atherosclerotic lesion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cholesterol; atherosclerosis; heart disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO9920302-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                    Disclosure;
                                                                                                                                                                                                                                                                                                                Vaccine
                                                                                                                                                                                                                                                                                                                                               WPI; 1999-302645/25
                                                                                                                                                                                                                                                                                                                                                                           Rittershaus CW,
                                                                                                                                                                                                                                                                                                                                                                                                                                      20-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20-OCT-1998;
                                                                         Sequence
                                                                                                       was used
                                                                                                                                                                                                                                                                                                                                                                                                     (AVAN-) AVANT IMMUNOTHERAPEUTICS
              Local
 16; Conser
                                                                                                                                                                                                                                                                                                                against cholesteryl ester transfer protein
                                                                                                       in the course
                                                                           31 AA;
                                                                                                                                                                                                                                                                                  Page
 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98WO-US22145
                                                                                                                                                                                                                                                                                                                                                                           Thomas
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              61.5%;
                                                                                                                                                                                                                                                                                    61pp;
                                                                                                        of the
                                                                                                                                                                                                                                                                                                                                                                           ٤
                                                                                                                                                                                                                                                                                    English.
Score 16; DB 20; pred. No. 5e-08; O; Mismatches
                                                                                                        invention.
   0
                               Length 31;
    Indels
    0;
    Gaps
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DP GA

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RESULT 19
AAY91236
ID AAY91236 standard; peptide; 35 AA.

XX
AC AAY91236;
XX
DT 22-MAY-2000 (first entry)
XX
DE Modified HBVsurface Ag/CETP peptide, SEQ ID NO:114.
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Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; plasmodium falciparum; circumsporozoite; antimalarial; CETP; cholesteryl ester transport protein; anti-arteriosclerotic. Chimeric - Hepatitis B virus.

Chimeric - Homo sapiens.

PDD XXX

29-DEC-1999

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FGFPEHLLVDFLQSLS fgfpehllvdflqsls

AAY91234 standard; peptide;

36

Modified MVF Th epitope/CETP peptide,

SEQ

ij

NO:112

T-cell epitope;

measles virus

immunogenic; B-cell epitope;

anticancer;

22-MAY-2000

(first entry)

Matches

16;

Conservative

0

Mismatches

0

Indels

0; Gaps

0

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CC human CD4 CDR2 antigenic site, and AAY9120; reprivate the prevent HIV CC infection of T cells. AAY91212 is a modified version of a human IgE CI (immunoglobulin E) CH3 domain and AAY90213 ry90219 are The pitope/IgE CH3 cantigenic peptides which may be used to prevent HIV CC (immunoglobulin E) CH3 domain, and AAY90213 ry90219 are The pitope/IgE CH3 CC (immunoglobulin E) CH3 domain, and AAY90213 ry90219 are The pitope/IgE CH3 CC AAY91220 is a peptide derived from foot and mouth disease virus (FMDV) CC VP1 capsid protein and AAY91221-ry91222 comprise this peptide and a Th CC epitope. AAY91223 is a plasmodium falciparum circumsporozoite (CS) target CC antigen, and AAY91247 v91225 comprise the CS antigen ard an MYF Th CC epitope and may be used in a malaria vaccine. AAY91228-ry91231 represent CC ETP peptide and a Th epitope which may be used to prevent or treat CC ETP peptide and a Th epitope which may be used to prevent or treat CC arteriosclerosis and cardiovascular disease. AAY91247 and AAY91252-ry91257 CC are HIV-1 neutralising B-cell epitopes, and AAY91248-ry91251 and CC CAAY91258-ry91273 are antigenic peptides comprising MVH Th and HIV-1 B-cell CC epitope which may be used as a component in an anti-HIV-1 vaccine. CC CAAY91298 and AAY91299 are respectively an immunostimulatory invasin CC protein epitope from versinia species, and hinge spacer peptide, both of invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         immunocastration); for promoting the growth of animals; or for treating allergies or arteriosclerosis. Incorporation of a promiscuous Th (functional in genetically diverse subjects) into an immunogen improves capacity to induce a strong T helper cell-mediated immune response, resulting in production of antibodies against a target antigen. Th can replace carrier proteins and pathogen-derived T helper epitopes. Sequence ANY91121 represents a promiscuous T helper epitope from the measles virus F (MVF) protein and sequences ANY91122-Y91142, ANY91226 and ANY91246 represent synthetic Th epitopes based on the MVF Th epitope. Sequence ANY9143 represents a promiscuous The epitope from hepatitis B virus (HBV) surface antigen, and sequences from hepatitis B virus (HBV) surface antigen, and sequences any91144 and any of the content of the content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against Plasmodlum falciparum, cholesteryl ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of a period of the control of t
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      comprising an LHRH sequence joined to a promiscuous Th epitope. AAY91 is the LHRH target antigenic peptide used in these LHRH antigenic peptides. AAY91200 is somatostatin, and AAY91201-Y91207 are antigenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY91144-Y91155 are synthetic epitopes derived from this HBV epitope AAY91156-Y91196, AAY91227 and AAY91242-Y91244 are antigenic peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 11; Page 106; 129pp; English
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Chimeric - Measles virus Chimeric - Homo sapiens.

Measles virus

hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticance somatostatin; growth promotion; CD4 receptor; HTV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; igE; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CETP;

cholesteryl ester transport protein; anti-arteriosclerotic

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The invention relates to novel promiscuous T helper cell epitopes (Th), CC and immunogenic peptides comprising the Th epitopes of the invention CC along with B cell epitopes. The Th epitopes and peptide immunogens CC containing them, are used to induce a T helper cell response, CC specifically against plasmodium falciparum, cholestery ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer CC immunotherapy; for inhibition of the action of luteinising hormone CC immunotherapy; for inhibition of the action of luteinising hormone CC releasing hormone (LHRH) for contraception, treatment of hormone-CC dependent cancer, prevention of boar taint in meat, and contraction of boar taint in meat, and contracting the growth of animals; or for cancer in the meating allergies or arteriosclerosis. Incorporation of a promiscuous CC improves capacity to induce a strong Theiper cell-mediated immune CC response, resulting in production of antibodies against a target CC antigen. Th can replace carrier proteins and pathogen-derived Theiper cell-mediated immune CC antigen. The an replace carrier proteins and sequences Any91122-r91142, CC Any9126 and Any91245-r9126 represents a promiscuous Theiper epitope CC from hepatitis B virus (HBV) surface antigen, and sequences the petitope CC Any91146-791155 are synthetic epitopes derived from this HBV epitope.

CC CANY91166, ANY9127 and ANY91242-791244 are antigenic peptides
                                                                                  the
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New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis

Claim 11; Page 105; 129pp; English.

or human

immune deficiency virus

WPI; 2000-160564/14

(UNBI-) UNITED BIOMEDICAL INC

9805-0100412 99WO-US13975

21-JUN-1999; 29-DEC-1999 W09966957-A2

Query Match Best Local Similarity

61.5%; 100.0%;

Score 16; Pred. No.

DB 21; 5.6e-08;

Length 35

Sequence

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AAX91235
ID AAY9
XX
AC AAX9
AC AAX9
XX Mod:
XX Pro
DE Mod:
XX Pro
KW Pro
KW Cho
KW Cho
XX Chi
XX WO9
PN WO9
PN WO9
PN WO9
PN 20-
XX 20-
XX 20-
XX WPI
NX WPI
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VPI capsid protein and ANY91221-Y91222 comprise this peptide and a The epitope. AAY91223 is a Plasmodium falciparum circumsporozoite (CS) target antigen, and AAY91224-Y91225 comprise the CS antigen and an MVF The epitope and may be used in a malaria vaccine. AAY91228-Y91231 represent CETP-derived peptides and AAY91232-Y91241 are immunogens comprising a CETP paptide and a Thepitope which may be used to prevent or treat arteriosclerosis and cardiovascular disease. AAY91247 and AAY91252-Y91257 are HIV-1 neutralising B-cell epitopes, and AAY91248-Y91251 and AAY91258-Y91273 are antigenic peptides comprising MVH Th and HIV-1 B-cell epitope which may be used as a component in an anti-HIV-1 vaccine. AAY9198 and AAY91199 are respectively an immunostimulatory invasin protein epitope from Yersinia species, and hinge spacer peptide, both of which may optionally be used in the antigenic peptides of the
                                                                                                                                                                                                                                                                                                                                                                                                    Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenio; B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; plasmodium falciparum; circumsporozoite; antimalarial; CETP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human CD4 CDR2-like domain antigenic site, and AAY91209-Y90211 are MVH The epitope/CD4 CDR2 antigenic peptides which may be used to prevent HIV infection of T cells. AAY90212 is a modified version of a human IgE (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are The epitope/IgE CH3 antigenic peptides which may be used in the treatment of allergies. AAY91220 is a peptide derived from foot and mouth disease virus (FMDV)
                      WPI; 2000-160564/14
                                                                                                    (UNBI-) UNITED
                                                                                                                                                  20-JUN-1998;
                                                                                                                                                                                                                                       29-DEC-1999
                                                                                                                                                                                                                                                                                W09966957-A2
                                                                                                                                                                                                                                                                                                                    Chimeric -
                                                                                                                                                                                                                                                                                                                                                                                       cholesteryl ester
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Modified MVF Th epitope/CETP peptide, SEQ ID NO:113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22-MAY-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY91235;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAY91235 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     comprising an LHRH sequence joined to a promiscuous Th epitope. AAY91: is the LHRH target antigenic peptide used in these LHRH antigenic peptides. AAY91200 is sometostatin, and AAY91201-Y91207 are antigenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     peptides comprising somatostatin and a Th epitope. Somatostatin
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                                                                                                                                                                                                                                                                                                                                           Measles virus
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                                                                                                                                                  98US-0100412
                                                                                                         BIOMEDICAL INC
                                                                                                                                                                                           99WO-US13975
                                                                                                                                                                                                                                                                                                                                                                                    transport
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61.5%;
                                                                                                                                                                                                                                                                                                                                                                                    protein; anti-arteriosclerotic
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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or human immune deficiency virus
                                                                                                                                                               New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis
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Claim 11; Page 105; 129pp; English

Immunocastration); for promoting the growth of animals; or for treating allergies or arteriosclerosis. Incorporation of a promiscuous of the functional in genetically diverse subjects) into an immunogen of improves capacity to induce a strong T helper cell-mediated immune or response, resulting in production of antibodies against a target cantigen. Th can replace carrier proteins and pathogen derived T helper epitopes. Sequence AAY91121 represents a promiscuous T helper epitope from the measles virus F (MVF) protein and sequences AAY91122-Y91142. Carrier the measles virus F (MVF) protein and sequences AAY91122-Y91142. Carrier the protein and sequences AAY91122-Y91142. Carrier the pritope. Sequence AAY91143 represents a promiscuous The pitope the protein and sequences from the pritope. Sequence AAY91143 represents a promiscuous The pitope. Carrier the pritope. AAY91144-Y91155 are synthetic epitopes derived from this HBV epitope. Carrier the protein and AAY91242-Y91244 are antigenic peptides comprising an LHRH sequence joined to a promiscuous Thepitope. AAY91197 is the LHRH target antigenic peptide used in these LHRH antigenic peptides. Carrier the protein and AAY91207 are antigenic peptides comprising somatostatin and a Thepitope. Somatostatin and a Thepitope. Somatostatin and a Thepitope. AAY91208 is a human CD4 CDR2-like domain antigenic which may be used to promote the protein and protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer immunotherapy; for inhibition of the action of luteinising hormone releasing hormone (LHRH) for contraception, treatment of hormone-releasing hormone of the action of which hormone releasing hormone of the action of the action of boar taint in meat, and dependent cancer, prevention of boar taint in meat, and Sequence epitope which may be used as a component in an anti-HIV-1 vaccine. AAY91198 and AAY91199 are respectively an immunostimulatory invasin protein epitope from Yersinia species, and hinge spacer peptide, bowhich may optionally be used in the antigenic peptides of the along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a Thelper cell response, specifically against Plasmodium falciparum, cholesteryl ester transport along with The invention relates to and immunogenic peptides 36 AA; elates to novel promiscuous T helper cell epitopes (Th), peptides comprising the Th epitopes of the invention li epitopes. The Th epitopes and peptide immunogens the

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AAY91237
ID AAY9
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                                                                                      Query Match
Best Local Similarity
       AAY91237
                                                              11 FGFPEHLLVDFLQSLS
                                              21 fgfpehllvdflqsls 36
       standard; peptide;
                                                                               Conservative
                                                                            100.08;
                                                              26
       36
                                                                                      Score 16; Pred. No.
                                                                               Mismatches
                                                                                      5 B
                                                                                      .7e-08;
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Countered the problem. The property of the problem. The property of the peltopes, but more generally against any pathogen, common carctive self-antigen or tumour antigen. The Th epitopes and common carctive self-antigen or tumour antigen. The Th epitopes and common carctive self-antigen or tumour antigen. The Th epitopes and common carctives are tumour disease or malaria); for cancer of common carctives or inhibition of the action of lutelnising hormone carctives or inhibition of the action of lutelnising hormone carctives or prevention of the action of lutelnising hormone carctives or for antigen the growth of animals; or for carctives or for treating allergies or arterioscierosis. Incorporation of a promiscuous carcting allergies or arterioscierosis. Incorporation of a promiscuous carctives capacity to induce a strong Thelper call-mediated immune carctives capacity to induce a strong Thelper call-mediated immune carctives. The can replace carrier proteins and pathogen-derived Thelper call-opes. Sequence Any91121 represents a promiscuous Thelper epitope cantigen. The can replace carrier proteins and sequences Any91122-y91142, any9126 and Any91245-y91246 represents a promiscuous Thelper epitope cany91144-y91155 are synthetic epitopes derived from this HBV epitope. Cany91164-y91195, any91227 and Any91242-y91244 are antigence bettides. Any91200 is somatostatin, and Any91201-y91207 are antigenic peptides. Comprising an tigenic peptide used in these LHRH antigenic comprising somatostatin, and any entrope. Scantostatin and are neitope. Scantostatin and are neitope.
peptides comprising somatostatin and a Th epitope. Somatostatin immunogens may be used to promote growth in livestock. AAY91208 is a human CD4 CDR2-like domain antigenic site, and AAY912109-Y90211 are MVH Th epitope/CD4 CDR2 antigenic peptides which may be used to prevent HIV infection of T cells. AAY90212 is a modified version of a human IgE (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are Ih epitope/IgE CH3 antigenic peptides which may be used in the treatment of allergies. AAY91220 is a peptide derived from foot and mouth disease virus (FMDV)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against Plasmodium falciparum, cholesteryl ester transport
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                                                                01-MAY-1995;
                                   (TCEL-) T CELL
                                                                                                                                                                                                                                 Region
                                                                                                                                                                                                                                                                                     Region
                                                                                                                                                                                                                                                                                                                                                                                                  Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cardiovascular
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Anti-cholesteryl ester transfer multivalent vaccine peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW06131 standard; Peptide;
                                                                                                                                                WO9634888-A1
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16; Conserv
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                                      SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  disease; atherosclerosis
                                                                                           96WO-US06147
                                                                                                                                                                                                                                 35..50
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                                                                                                                                                                                                                                                                                                                                                                                   /note-
                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                /label- B-cell_epitope
                                                                                                                                                                                                                                                                                                                /note=
                                                                                                                                                                                                                                                                                                                               /label-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61.5%; Score 16; 100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                36
                                                                                                                                                                     "B-cell epitope comprises the C-terminal 16 amino acids of human CETP, involved in neutral lipid binding or transfer activity"
                                                                                                                                                                                                                                                                                                 "T-cell_epitope
"T-cell epitope comprises amino acids
830-843 of tetanus toxoid protein"
                                                                                                                                                                                                                                                                                                                                                                   "C-terminal Cys residue in linking the peptide
                                                                                                                                                                                                                                           B-cell_epitope
"B-cell epitope comprises amino acids
349-367 of human CETP"
                                                                                                                                                                                                                                                                                                                                                        molecules"
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5.7e-08;
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to itself or other
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                                                                                                                                                                                                                                                                                               protein*
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Rittershaus CW,

Thomas LJ;

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invention to stimulate an immune response to increase high density lipoprotein (HDL) cholesterol in a mammal exhibiting low levels of serum HDL. These peptides represent immunogenic epitopes of cholesteryl ester transfer protein (CETP). The method utilises the body's own immune system to lower CETP levels, thereby increasing the level of beneficial HDL cholesterol, preferably in serum. The method avoids the problems associated with the repeated administration of drugs which have undesirable side effects. This peptide represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cholesteryl ester transfer protein B cell epitope linked to T cel epitope - used to generate vaccine to regulate CETP activity for decreasing the risk of developing a cardiovascular disease e.g.
                                                                                                                                                                                                                                                     Claim
                                                                                                                                                                                                                                                                                                                                                  Stimulating an immune response to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 also AAW06127). The vaccine elicits an immune response against endogenous CETP activity, and is used to treat or prevent a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A multivalent vaccine comprises an immunogen epitope of tetanus toxoid protein covalently
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Page 7;
                                                                                                                                                                                                     The sequences given in AAW24292-94 were used in the method
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brostoff SW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (IMMU-) IMMUNE RESPONSE CORP
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>p</u>
                                                                                                                                                                                                                                                                                            The invention relates to novel promiscuous T helper cell epitopes (Th), and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against Plasmodium falciparum, cholesteryl ester transport specifically against Plasmodium falciparum, cholesteryl ester transport
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wang
             dependent cancer, prevention of boar taint in meat, and immunocastration); for promoting the growth of animals; or for treating allergies or arteriosclerosis. Incorporation of a promiscum the functional in genetically diverse subjects) into an immunogen improves capacity to induce a strong T helper cell-mediated immune response, resulting in production of antibodies against a target antigen. The can replace carrier proteins and pathogen—derived T helper the proteins and pathogen—the proteins are proteins are proteins are proteins and pathogen proteins are proteins are proteins are proteins are proteins are proteins are proteins.
                                                                                                                                                               protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer immunotherapy; for inhibition of the action of luteinising hormone releasing hormone (LHRM) for contraception, treatment of hormone-
                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         or human
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-JUN-1998;
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luteinising hormone releasing hormone; LHRH; contraceptive;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               UNITED
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         immune
                                                                                                                                                                                                                                                                                                                                                                                                                             Page 62; 129pp; English.
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CC comprising an LHRH sequence joined to a promiscuous Th epitope. AAV91197
CC peptides. AAV91200 is somatostatin, and AAV91201-Y91207 are antigenic comprising somatostatin and a Th epitope. Somatostatin and a The pitope. Somatostatin and CO comprising somatostatin and The pitope. Somatostatin are MVH The comprise the CO comprise this paptide and The CO comprise the CO comprise this paptide and The CO comprise the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CETP; cholesteryl-ester transfer protein; recombinant DNA vaccine; antibody production; cholesteryl ester transfer; therapy; high density lipoprotein; HDL cholesterol concentration;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            from the measles virus F (MVF) protein and sequences AAY91122-Y91142, AAY91226 and AAY91245-Y91246 represent synthetic Th epitopes based on MVF Th epitope. Sequence AAY91143 represents a promiscuous Th epitope
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Matches 11
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This sequence represents an immunogenic fragment of the rabbit cholesteryl ester transferase protein (CETP).

The invention relates to recombinant DNA vaccines that contain DNA encoding CETP, which can be used for producing antibodies to lessen the transfer of cholesteryl esters from high density lipoprotein (HDL). The method can provide an autogenic immunological process for lessening the transfer of cholesteryl esters from HDL particles and for increasing the
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11; Conser
                                                                                                                        Page 94; 99pp;
                                                                                                                                                                                                               Needleman P;
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              The invention relates to novel promiscuous T helper cell epitopes (Th), cc and immunogenic peptides comprising the Th epitopes of the invention cc along with B cell epitopes. The Th epitopes and peptide immunogens cc containing them, are used to induce a T helper cell response, specifically against plasmodium falciparum, cholesteryl ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, cc immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer immunotherapy; for inhibition of the action of luteinising hormone (IHRH) for contraception, treatment of hormone-creasing hormone (IHRH) for promoting the growth of animals; or for treating allergies or arteriosclerosis. Incorporation of a promiscuous CT h (functional in generically diverse subjects) into an immunoscapic or arteriosclerosis. Incorporation of a promiscuous CT h (functional in generically diverse subjects) into an immunoscapic or arteriosclerosis. Incorporation of a promiscuous CT h (functional in generically diverse subjects).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone: LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CETP; cholesteryl ester transport protein; anti-arteriosclerotic.
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      genetically
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an immunogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NO:109
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RESULT 29
AAY91238
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CC MVF Th epitope. Sequence ANY91143 represent synthetic Th epitopes based on the CC MVF Th epitope. Sequence ANY91143 represents a promiscuous Th epitope CC ANY91144 Y91155 are synthetic epitopes derived from this HBV epitope. CC ANY91156 Y91196, ANY91277 and ANY91247 Y91244 are antigenic peptides CC comprising an LHRH sequence joined to a promiscuous Th epitope. ANY91197 CC is the LHRH target antigenic peptide used in these LHRH antigenic peptides of immunogens may be used to promote growth in livestock. ANY91208 is a CC immunogens may be used to promote growth in livestock. ANY91208 is a continuous continuous peptides. ANY91208 is a continuous peptides which may be used to prevent HIV CC infection of T cells. ANY90212 is a modified version of a human IgE C (immunoglobulin E) CH3 domain, and ANY90213 -y9021 are my WH Th CC epitope/CD4 CDR2 antigenic peptides which may be used to prevent HIV CC (immunoglobulin E) CH3 domain, and ANY90213-y9021 are beptide CH3 antigenic peptides which may be used in the treatment of allergies. CC ANY91220 is a peptide derived from foot and mouth disease virus (FMDV) CC VP1 capsid protein and ANY91221-Y91222 comprise this peptide and a Th CC epitope ANY91223 is a Plasmodium falciparum circumsporzozite (CS) target cantigen, and ANY91231 is a Plasmodium falciparum circumsporzozite (CS) target CEPIC peptides and ANY91233-Y91241 are immunogens comprising a CEPIC peptides and ANY91233-Y91241 are immunogens comprising a CEPIC peptides and any9123-Y9123-Y91247 and ANY9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y9125-Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                          Chimeric -
                                                                                                                                                                      hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticance somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CETP; cholesteryl ester transport protein; anti-arteriosclerotic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY91238 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        improves capacity to induce a strong T helper cell-mediated immune response, resulting in production of antibodies against a target antigen. Th can replace carrier proteins and pathogen-derived T helper epitopes. Sequence AXY91121 represents a promiscuous T helper epitope from the measles virus F (MVF) protein and sequences AXY91122-Y91142, AXY91226 and AXY91245-Y91246 represent synthetic Th epitopes based on
                                                                                                                                                                                                                                                                                                                Promiscuous T-cell epitope; measles virus F protein; MVF;
                                                                                                                                                                                                                                                                                                                                                                  Modified
                                                                                                                                                                                                                                                                                                                                                                                                              22-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAY91238
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16 hllvdflqsls 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16 HLLVDFLQSLS
                                                                                                                                                                                                                                                                                                                                                                  MVF
                                                                                                             Homo
                                                                                                                                   Measles virus
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                                                                                                                                                                                                                                                                                                                                                          Th epitope/CETP peptide,
                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
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100.0%;
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                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO:116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 21;
0.0016;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
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                                                                                                                                                                                                                                                                    anticancer;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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W09966957-A2

99WO-US13975

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CC peptides comprising somatostatin and a Th epitope. Somatostatin and a The epitope. Somatostatin and a The pitope. Somatostatin and a The pitope. Somatostatin and antigenic site, and AAY91209. 190211 are MMH Th CC epitope/CD4 CDR2 antigenic peptides which may be used to prevent HIV CC (immunoglobulin E) CH3 domain, and AAY90213 190219 are Th epitope/IGE CH3 antigenic peptides which may be used in the treatment of allergies. CC AAY91220 is a peptide derived from foot and mouth disease virus (FMDV) CV P1 capsid protein and AAY91221-791222 comprise this peptide and a Th epitope. AAY91223 is a plasmodium falciparum circumsporozoite (CS) target CC antigen, and AAY91224-Y91225 comprise the CS antigen and an MVF Th CC epitope and may be used in a malaria vaccine. AAY9128-Y91231 represent CC ETP-peptide and a Th epitope which may be used to prevent or treat CC arteriosclerosis and cardiovascular disease. AAY91247 and AAY91252-Y91257 care HHV-1 neutralising B-cell epitopes, and AAY91278 and AAY91279 are antigenic peptides comprising MVH Th and HIV-1 B-cell CC AAY9128 and AAY9119 are respectively an immunostimulatory invasin cC protein epitope from Yersinia species, and hinge spacer peptide, both of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Immunotherapy; for inhibition of the action of inteinising hormone

C releasing hormone (LHRH) for contraception, treatment of hormone-
CC dependent cancer, prevention of boar taint in meat, and
CC immunocastration); for promoting the growth of animals, or for
CC treating allergies or arteriosclerosis. Incorporation of a promiscuous
CC improves capacity to induce a strong T helper cell-mediated immune
CC response, resulting in production of antibodies against a target
CC antigan. Th can replace carrier proteins and pathogen-derived T helper
CC epitopes. Sequence AAY91121 represents a promiscuous T helper epitope
CC from the measles virus F (MVP) protein and sequences AAY91122-Y91142,
CC AAY91226 and AAY91245-Y91246 represents a promiscuous Th epitope believe. Sequence AAY9143 represents a promiscuous Th epitope
CC AAY91126 and AAY91245-Y9126 surface antigen, and sequences
CC (AAY91155 are synthetic epitopes derived from this. HBV epitope
CC (AAY9116-Y91196, AAY9127 and AAY91242-Y91244 are antigenic peptides
CC (AAY91165-Y91166) as commiscioned in these LHRH antigenic
CC peptides. AAY91200 is somatostatin, and AAY91201-Y91207 are antigenic
CC peptides comprising commiscioned and a Th epitope. Scantisting and commissioned and a Theorem and antigenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and immunogenic peptides comprising the Th epitopes of the invention along with B cell epitopes. The Th epitopes and peptide immunogens containing them, are used to induce a T helper cell response, specifically against plasmodium falciparum, cholestery, ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mounth disease or malaria); for cancer formunorehoratum, for inhabitons of the set of malaria); for cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis {\bf r}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to novel promiscuous T helper cell epitopes (Th),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 11; Page 106; 129pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-JUN-1998;
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                                                                        pitope from Yersinia species, and hinge spacer peptide, both optionally be used in the antigenic peptides of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BIOMEDICAL INC
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Query Match

Best Local Similarity

Matches 11; Conser

Conservative

42.3%; Score 11; 100.0%; Pred. No. tive 0; Mismatc

DB 21; 0.0021;

Length 36; Indels

0

Gaps

0

joined

to a promiscuous

. AAY91197

t he

Mismatches

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RESULT 3
The invention relates to novel promiscuous T helper cell epitopes (Th), CC and immunogenic peptides comprising the Th epitopes of the invention CC along with B cell epitopes. The Th epitopes and peptide immunogens CC containing them, are used to induce a T helper cell response, CC specifically against plasmodium falciparum, cholesteryl ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or tumour antigen. The Th epitopes and CC immunoreactive self-antigen or for contraception, treatment of hormone-CC immunoreactive prevention of boar taint in meat, and CC immunoreactive prevention of boar taint in meat, and CC immunoreactive prevention of boar taint in meat, and CC immunoreactive prevention of boar taint in meat, and CC immunoreactive or arteriosclerosis. Incorporation of a promiscuous CC infectional in genetically diverse subjects) into an immunogen CC improves capacity to induce a strong Thelper cell-mediated immune CC improves capacity to induce a strong Thelper cell-mediated immune CC antigen. The can replace carrier proteins and pathogen-derived Thelper epitopes. Sequence Axy91121 represents a promiscuous Thelper epitope transpose, resulting in production of antibodies against a target cantigen. The measies virus f (MPV) protein and sequences Axy91127. Y91142, Axy9126 and Axy9127 and Axy912
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis or human immune deficiency virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 11; Page 107; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2000-160564/14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chimeric - Measles virus
Chimeric - Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cholesteryl ester transport protein; anti-arteriosclerotic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Promiscuous T-cell epitope; measles virus F protein; MVF; hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone LHRH; contraceptive; anticancer; somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CETP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY91239 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20-JUN-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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RESULT 31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          somatostatin; growth promotion; CD4 receptor; HIV-1; antiviral; FMDV; foot and mouth disease virus; immunoglobulin E; IgE; anti-allergic; Plasmodium falciparum; circumsporozoite; antimalarial; CETP;
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New artificial T helper cell epitope and derived immunogens with target
                                                                           WPI; 2000-160564/14.
                                                                                                                                                                                                                       (UNBI-) UNITED BIOMEDICAL INC
                                                                                                                                                                                                                                                                                                                                                                           21-JUN-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chimeric -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cholesteryl ester transport
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hepatitis B virus surface antigen; HBV; immunogenic; B-cell epitope; luteinising hormone releasing hormone; LHRH; contraceptive; anticancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Promiscuous T-cell epitope; measles virus F protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modified MVF Th epitope/CETP peptide, SEQ ID NO:118
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100.0%; Pred. No. 0.1
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein; anti-arteriosclerotic
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0.0021;
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AAY91241 ID AAY9

AAY91241 standard; peptide; 46

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RESULT

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hllvdflqsls 46

16 HLLVDFLQSLS 26 Local Similarity les 11; Conserv

Best Loc Matches

42.3%; Si ilarity 100.0%; | Conservative 0;

Score 11; Pred. No.

DB 21; 0.0026;

Length 46

Mismatches

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Gaps

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cresponse, resulting in production of antibodies against a target ceptiopes. Sequence AAY91121 represents a promiscuous The before pytiope conversed and pathogen-derived Thelper conversed and pathogen-derived from the pathogen-derived from the conversed and pathogen-derived from the conversed and pathogen-derived from this HBV epitope. AAY91144-Y91155 are synthetic epitopes derived from this HBV epitope. Conversing an LHRH sequence joined to a promiscuous Thepitope. AAY91197 (is the LHRH target antigenic peptide used in these LHRH antigenic peptides comprising an LHRH sequence joined to a promiscuous Thepitope. AAY91197 (is the LHRH target antigenic peptide used in these LHRH antigenic peptides. AAY91200 is somatostatin and AAY9120-Y91207 are antigenic comprising somatostatin and AAY9120-Y91207 are antigenic comprising pathoge. AAY91213 is a modified version of a human IgE (immunogens may be used to promote growth in livestock. AAY91208 is a physical peptides which may be used to prevent HIV (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are Thepitope/IgE CH3 (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are Thepitope/IgE CH3 (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are Thepitope/IgE CH3 (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are Thepitope/IgE CH3 (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are Thepitope/IgE CH3 (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are Thepitope/IgE CH3 (immunoglobulin E) CH3 domain, and AAY90213-Y90219 are Thepitope/IgE CH3 (immunoglobulin E) CH3 domain and AAY90213-Y90219 are Thepitope/IgE CH3 (immunoglobulin E) CH3 domain and AAY90213-Y90219 are Thepitope/IgE CH3 (immunoglobulin E) CH3 (immunoglobulin E) CH3 (immunoglobulin E) CH3 (im
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein (CETP) or HIV epitopes, but more generally against any pathogen, immunoreactive self-antigen or tumour antigen. The Th epitopes and peptide immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer immunotherapy; for inhibition of the action of luteinising hormone (LHRH) for contraception, treatment of hormone dependent cancer, prevention of boar taint in meat, and immunocastration); for promoting the growth of animals; or for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  or human immune
Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Page 107; 129pp; English
46
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22-MAY-2000

(first entry)

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CC and immunogenic peptides comprising the The epitopes of the invention call opitopes. The The poitopes and peptide immunogens containing them, are used to induce a Thelper cell response. CC specifically against plasmodium falciparum, cholesteryl ester transport protein (CETP) or HIV epitopes, but more generally against any pathogen, cc immunoreactive self-antigen or tumour antigen. The Thepitopes and confidence immunogens may be used for prevention and/or treatment of infections (HIV, foot-and-mouth disease or malaria); for cancer confidence, prevention of boar taint in meat, and immunocastration); for promoting the growth of animals: or for treataing allergies or arteriosclerosis. Incorporation of a promiscuous cumproves capacity to induce a strong Thelper cell mediated immunogen cresponse, resulting in production of antibodies agains: a target cantigen. The can replace carrier proteins and pathogen-derived Thelper cepitopes. Sequence Any91121 represents a promiscuous Thelper epitope from the measies virus f (NVF) protein and sequences Any9112-y91142; CANy9126 and Any9127 and Any91143 represents a promiscuous Theptopes based on the comprising an LHRH sequence joined to a promiscuous Theptope. Cany9115-y91145, ANy9127 and ANy9124-y91144 are antigenic peptides. Any9120 is somatostatin, and Any9120-y9120 are antigenic comprising somatostatin, and Any9120-y9120 and Any91197 are antigenic comprising somatostatin, and Any9120-y9120 and Any91197 are antigenic comprising somatostatin, and Any9120-y9120 and Any91197 are antigenic comprising somatostatin, and Any9120-y9120 and Any9120 are antigenic comprisions.
immunogens may be used to promote growth in livestock. AAV91208 is a human CD4 CDR2-like domain antigenic site, and AAV91209-Y90211 are MVH The epitope/CD4 CDR2 antigenic peptides which may be used to prevent HIV infection of T cells. AAV90212 is a modified version of a human IgE (immunoglobulin E) CH3 domain, and AAV90213-Y90219 are Thepitope/IgE CH3 antigenic peptides which may be used in the treatment of allergies. AAV91220 is a peptide derived from foot and mouth disease virus (FMDV) VPl capsid protein and AAV91221-Y91222 comprise this peptide and a Th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New artificial T helper cell epitope and derived immunogens with target antigenic site, for immunization against e.g. malaria, arteriosclerosis
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      epitope. AAY91223 is a plasmodium falciparum circumsporozoite (CS) target antigen, and AAY91224-Y91225 comprise the CS antigen and an MVF Th epitope and may be used in a malaria vaccine. AAY91228-Y91231 represent CETP-derived peptides and AAY91232-Y91241 are immunogens comprising a cETP peptide and a Th epitope which may be used to prevent or treat arterioscierosis and cardiovascular disease. AAY91247 and AAY91252-Y91257 are HIV-1 neutralising B-cell epitopes, and AAY91248-Y91251 and AAY91258-Y91273 are antigenic peptides comprising MVH Th and HIV-1 B-cell epitope which may be used as a component in an anti-HIV-1 vaccine. AAY91198 and AAY91199 are respectively an immunostim-HIV-1 vaccine. AAY91198 and AAY91199 are respectively an immunostim-HIV-1 which may optionally be used in the antigenic peptides of the importance.
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                                                                                                                       95US-0432483
                                                                                                                                               96WO-US06147
                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
2..15
                                                                                                                                                                                                                    /label= B-cell_epitope
/note= B-cell_epitope comprises the C-terminal 16
/note= B-cell epitope comprises the C-terminal 16
amino acids of rabbit CETP, involved in
neutral lipid binding or transfer activity*
                                                                       Thomas
                                                                                                                                                                                                                                                                                               /note=
                                                                                                                                                                                                                                                                                                            /label=
                                                                                                                                                                                                                                                                                                                                               /note-
                                                                                                                                                                                                                                                                                                                                                          /label-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       42.3%;
100.0%;
                                                                                                                                                                                                                                                                                                                                "T-cell_epitope comp
"T-cell epitope comp
830-843 of tetanus
                                                                                                                                                                                                                                                                                            B-cell_epitope
                                                                                                                                                                                                                                                                                                                                                                                                                                    atherosclerosis
                                                                                                                                                                                                                                                                                   350-368 of rabbit CETP*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 11;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                  comprises amino anus toxoid prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0.
BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .0026;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                               amino
                                                                                                                                                                                                                                                                                                                                   protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
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Cholesteryl ester transfer protein B cell epitope linked to epitope - used to generate vaccine to regulate CETP activit decreasing the risk of developing a cardiovascular disease e

activity

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RESULT
AAW46447
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                  Chimeric
Chmieric
                                                                                                                                                                                                                                                                                                                                                                                                       Cholesteryl ester transfer protein; CETP; cholesteryl ester; high density lipoprotein; HDL; very low density lipoprotein; VLDL; low density lipoprotein; LDL; atheroscierosis; neutral lipid binding; transfer activity; immunogenic; B cell epitope; antibody; DNA plasmid-based vaccine; broad range helper T cell epitope;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A multivalent vaccine comprises an immunogenic helper T-cell epitope of tetanus toxoid protein covalently linked to the B-cel epitopes of rabbit cholesteryl ester transfer protein (CETP) (se also AAW06133). The vaccine elicits an immune response against
                                                                                                                                                                                                                                                                                                               Key
Peptide
DNA plasmid-based vaccine encodes CETP B cell and helper T cell epitope(s) - used for elevating high density lipoprotein levels
                                 WPI; 1997-549731/50.
N-PSDB; AAV05128.
                                                                                                                  21-FEB-1997;
01-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cardiovascular disease, such as atherosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Page 7; 72pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         atherosclerosis
                                                                     Thomas LJ
                                                                                          (TCEL-) T CELL
                                                                                                                                                    01-MAY-1997;
                                                                                                                                                                           06-NOV-1997.
                                                                                                                                                                                                 WO9741227-A1
                                                                                                                                                                                                                                            Peptide
                                                                                                                                                                                                                                                                               Peptide
                                                                                                                                                                                                                                                                                                                                                                                                treatment; cardiovascular disease; chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CETP B cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-MAY-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW46447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAW46447 standard; Peptide; 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              endogenous CETP activity, and is used to treat or prevent a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16 HLLVDFLQSLS 26
||||||||||
| 40 hllvdflqsls 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                    •
                                                                                                                                                                                                                                                                                                                                                 Clostridium
Oryctolagus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              50 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             epitope/tetanas toxoid construct for a plasmid vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                  97US-0802967
96US-0640713
                                                                                           SCI INC
                                                                                                                                                    97WO-US07294
                                                                                                                                                                                                                                  35..50
/note=
                                                                                                                                                                                                                                                                               16..34
                                                                                                                                                                                                                                                                    /note-
                                                                                                                                                                                                                                                                                                    /note=
                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                42.3%;
100.0%;
                                                                                                                                                                                                                       "CETP epitope of amino acids 481-496 of AAW46445"
                                                                                                                                                                                                                                                                                                    "tetanas toxoid broad range helper T cell
                                                                                                                                                                                                                                                                                                                                                  sp.
                                                                                                                                                                                                                                                                                                                                                            tetani
                                                                                                                                                                                                                                                       "CETP epitope of AAW46445"
                                                                                                                                                                                                                                                                                         epitope"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 11;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 17;
0.0028;
                                                                                                                                                                                                                                                                    amino acids 350-368 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
  levels,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
  and
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY02468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 11
             Claim 5;
                                          Vaccine against cholesteryl ester transfer protein
                                                                                                                                                                                                                                                                  WO9920302-A1
                                                                                                                                                                                                                                                                                             Oryctolagus sp
                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                           high-density lipoprotein-associated cholesterol; metabolism; low-density lipoprotein-associated cholesterol; atherosclerotic lesion; cholesterol; atherosclerosis; heart disease.
                                                                                                                                                                                                                                                                                                                                                                                         Vaccine; antibody; endogenous; cholesteryl ester transfer protein; CETP;
                                                                                                                                                                                                                                                                                                                                                                                                                        Modified rabbit cholesteryl ester transfer protein (CETP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY02468;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAY02468 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  for treating cardiovascular disease
                                                                          WPI; 1999-302645/25
                                                                                                         Rittershaus CW,
                                                                                                                                                                    20-OCT-1997;
                                                                                                                                                                                                                                   29-APR-1999.
                                                                                                                                        (AVAN-) AVANT
                                                                                                                                                                                                     20-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40 hilvdflqsls 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16 HLLVDFLQSLS 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  35
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ch 42.3%; Score 11; 1 Similarity 100.0%; Pred. No. 11; Conservative 0; Mismatc
             Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Page 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        50 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first
             50-52; 61pp;
                                                                                                                                        IMMUNOTHERAPEUTICS
                                                                                                                                                                      97US-0954643
                                                                                                                                                                                                     98WO-US22145
                                                                                                         Thomas LJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     67pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
             English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 18;
0.0028;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
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AAW06133
IID AAW0
XX
AC AAW(
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CY CAP(
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
plays a role in altering the relative profile of circul-
lipoproteins. It shows approx. 80% amino acid homology
human CETP (AAW06127), raised levels of which have been
                                                                                                                                                                                                                                     Cholesteryl ester transfer protein B cell epitope linked to T cell epitope used to generate vaccine to regulate CETP activity for decreasing the risk of developing a cardiovascular disease e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The specification describes a vaccine that promotes the production of antibodies that bind endogenous cholesteryl ester transfer protein (CETP). The vaccines (and equivalent plasmid-based vaccines) are used to increase the ratio of circulating high-density lipoprotein (HDL)-associated cholesterol to low-density lipoprotein (LDL)-associated cholesterol; to decrease the level of endogenous CETP activity in humans or other animals; to alter metabolism of LDL-associated cholesterol, for inhibiting development of atheroscleroit lesions; to lower circulating levels of LDL and total cholesterol; and to treat or prevent atherosclerosis (or more generally heart disease). The present sequence
                                                                                                                                                  Disclosure; Page 51-54; 72pp; English
                                                         Rabbit mature cholesteryl ester transfer protein (CETP) (AAW06127) plays a role in altering the relative profile of circulating
                                                                                                                                                                                                                     atherosclerosis
                                                                                                                                                                                                                                                                                                                                                                 WPI; 1996-506103/50.
                                                                                                                                                                                                                                                                                                                                                                                                                              Rittershaus CW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (TCEL-) T CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07-NOV-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Region
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cholesteryl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rabbit cholesteryl ester transfer protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-FEB-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW06133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW06133 standard; Protein; 496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       467 hllvdflqsls 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16 HLLVDFLQSLS 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a modified rabbit CETP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cuniculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ester transfer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             95US-0432483
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           disease;
                                                                                                                                                                                                                                                                                                                                                                                                                           Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /label= B-cell_epitope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /Label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      42.3%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "C-terminal epitope
lipid binding or a
CETP"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B-cell_epitope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           atherosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein; CETP; antigen; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Å
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0.0
B
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   involved in neutral transfer activity of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Inde.s
                                      6
   linked to an
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Best Local Similarity
The present sequence represents the mature rabbit cholesteryl ester transfer protein (CETP). CETPs mediate the transfer of cholesteryl esters from high density lipoprotein (BLD) to very low density lipoprotein (FLD). An increased CETP activity produces an atherogenic lipoprotein (LDL). An increased CETP activity produces an atherogenic lipoprotein profile and induces atherosclerosis. A 13 amino acid stretch in the rabbit CETP (Phe483 to Leu495), and also possibly Asp480, are particularly important for neutral lipid binding and transfer activity. This region has been shown to be immunogenic as a B cell epitope of CETP, and amonoclonal antibody (FP2) directed at this region has been shown to inhibit neutral lipid transfer. A second B cell epitope is defined by Arg350 to Ile368. Antibodies to this second epitope would allow the formation of immune complexes involving CETP, and promote the removal of the complexed CETP. This peptide region was selected for
                                                                                                                                                                                                                                                           epitope(s) -
for treating
                                                                                                                                                                                                                                                                         DNA plasmid-based vaccine encodes CETP B cell and helper epitope(s) - used for elevating high density lipoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rabbit or human CETP can be used in novel peptide vaccines also AAW06129, AAW06131-32) that elicit an immune response endogenous CETP activity, thereby treating or preventing cardiovascular disease, such as atherosclerosis.
                                                                                                                                                                                                                               Disclosure;
                                                                                                                                                                                                                                                                                                                            N-PSDB;
                                                                                                                                                                                                                                                                                                                                            WPI; 1997-549731/50
                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-FEB-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         W09741227-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Oryctolagus sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       treatment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 high density lipoprotein; HDL; very low density lipoprotein; VLDL; low density lipoprotein; LDL; atherosclerosis; neutral lipid binding; transfer activity; immunogenic; B cell epitope; antibody; TP2; DNA plasmid-based vaccine; broad range helper T cell epitope;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cholesteryl ester transfer protein; CETP; rabbit;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mature rabbit cholesteryl ester transfer protein (CETP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-MAY-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW46445 standard;
                                                                                                                                                                                                                                                                                                                                                                                                           (TCEL-) T CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                486 hllvdflqsls 496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16 HLLVDFLQSLS
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                                                                                                                                                                                                                                                                                                                              AAV05126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cardiovascular disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              496
                                                                                                                                                                                                                           Pages 32-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             42.3%; ilarity 100.0%; Conservative (
                                                                                                                                                                                                                                                             cardiovascular disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                           SCI INC
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96US-0640713.
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; Pred. No.
                                                                                                                                                                                                                         English.
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0.021;
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peptide vaccines
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                                                                                                                                                                                                                                                                                         T cell
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         its potential antigenicity and high possibility for surface expression on native CETP. Sequences encoding these 2 epitopes can be used in a DNA plasmid-based vaccine which comprises sequences encoding at least 1 B cell epitope of CETP linked in frame with at least one segment encoding a broad range helper T cell epitope. The vaccines can be used to elevate the ratio of circulating HDL to circulating LDL, VLDL or total cholesterol in a human. It can also be used for decreasing the level of endogenous CETP activity in a human. The vaccine can be used to produce anti-CETP antibodies in vivo and for treating cardiovascular disease.
                                                                                                                                         The specification describes a vaccine that promotes the production antibodies that bind endogenous cholesteryl easter transfer protein (CETP). The vaccines (and equivalent plasmid-based vaccines) are used to increase the ratio of circulating high-density lipoprotein
                                                                                           (HDL)-associated cholesterol to low-density lipoprotein (LDL)-associated cholesterol; to decrease the level of endogenous CETP activity in humans or other animals; to alter metabolism of LDL-associated cholesterol, for
                                                                                                                                                                                                                                                                                                             WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vaccine; antibody; endogenous; cholesteryl ester transfer protein; CETP; high-density lipoprotein-associated cholesterol; metabolism; low-density lipoprotein-associated cholesterol; atherosclerotic lesion;
                                                                                                                                                                                                                            Disclosure; Page 47-49; 61pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Oryctolagus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cholesterol; atherosclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14-JUL-1999
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Sequence
                             represents
                                             atherosclerosis (or more generally
                                             inhibiting development of atherosclerotic lesions; to lower circulating levels of LDL and total cholesterol; and to treat or prevent atherosclerosis (or more generally heart disease). The present sequence
                                                                                                                                                                                                                                                           Vaccine against cholesteryl ester transfer protein
                                                                                                                                                                                                                                                                                                                                                                         (AVAN-) AVANT IMMUNOTHERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                          20-OCT-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rabbit cholesteryl
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                                                                                                                                                                                                                                                                                                             1999-302645/25
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                               rabbit
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496
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3
                                                                                                                                                                                                                                                                                                                                                                                                          97US-0954643
                                                                                                                                                                                                                                                                                                                                                                                                                                          98WO-US22145
                                 CETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ester
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100.0%
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       heart disease
                                                                                                                                                                                                                              English
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0.021;
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         AAU17886
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Best Local
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                                                                                                                                                            The present invention relates to single exon nucleic acid probes (SENP: see AAI3)115-AAI57546). The present sequence is a peptide encoded by one such probe. The probes are useful for producing a microarray for predicting, measuring and displaying gene expression in samples derived from human placenta. The probes are useful for antenatal diagnosis of
                                                                                                                                                                                                                                                                                                                                                                         04-FEB-2000;
26-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Probe; microarray; genetic disorder.
AAU17886 standard;
                                                                                                                                  Sequence
                                                                                                                                                                                                                     Claim 27;
                                                                                                                                                                                                                                       analyzing
                                                                                                                                                                                                                                               Human genome-derived single exon nucleic acid probes useful
                                                                                                                                                                                                                                                                                      Penn
                                                                                                                                                                                                                                                                                                                                              03-AUG-2000;
21-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                    30-JAN-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200157272-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Peptide #5103 encoded by
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAM31066;
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                                                                                                                                                                                                                                                                                                         (MOLE-)
                                                                                                                                                                                                                                                                                                                                    27-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                30-JUN-2000;
                                                                                                                                                     human genetic disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              486 hllvdflqsls 496
                                              18 dgflllq
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                                                                  2 DGFLLLQ 8
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                                                                                                                                                                                                                                                                                                         MOLECULAR DYNAMICS INC
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                                                                                   Similarity 7; Conserv
                                                                                                                                                                                                                     SEQ ID No 31335; 654pp; English
                                                                                                                                                                                                                                      gene expression
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                                                                                                                                   51
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2000US-0207456
2000US-0608408
2000US-0632368
2000US-0234686
2000US-02346359
2000US-0236359
                                                                                     Conservative
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                                               24
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                                                                                                                                   ΑA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       human; placenta; antenatal diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry]
                                                                                             26.9%;
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                                                                                J.0%;
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                                                                                                                                                                                                                                      in human placenta
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; Pred. No.
  69
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Pred. No.
 B
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13;
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0.021;
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AAU17886

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	(first entry)  respiratory antigen #202.  ratory antigen; respiratory disorder; throat disorder;  rr nose disorder; lung cancer; gene therapy; cytostatic;  c; anti asthmatic; anti inflammatory; olfactory;
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2000US-0234998 2000US-0235484 2000US-0235484 2000US-0235836 2000US-0236327 2000US-0236368 2000US-0236368 2000US-0236369 2000US-0237039 2000US-0237039 2000US-0237039 2000US-0237039 2000US-0241221 2000US-0241786 2000US-0241786 2000US-0246478 2000US-0246478 2000US-0246476 2000US-0246611 2000US-0246611 2000US-0246611 2000US-0246611 2000US-0246528 2000US-0246528 2000US-02462611 2000US-02462611 2000US-024628 2000US-0249218 2000US-024928	2000US-0232400 2000US-0232401 2000US-0233663 2000US-0233664 2000US-0233664 2000US-0233665 2000US-0234223 2000US-0234274 2000US-0234274

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08-DEC-2000;
08-DEC-2000;
08-DEC-2000;
08-DEC-2000;
08-DEC-2000;
11-DEC-2000;
05-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present invention relates to the isolation of novel human respiratory antigens, and cDNA (AASJ7869-AASJ8159) and genomic sequences encoding for these polypeptides. The sequences of the invention are useful for preventing, treating and/or prognosing disorders related to the respiratory system including throat disorders (e.g. vocal cord paralysis, tonsillitis, and laryngitis), lung disorders e.g. pneumonia, allergic disorders e.g. asthma, pleurisy, cystic fibrosis, emphysema, nose disorders and cancers of the respiratory tissues e.g. lung cancer. The polynucleotide sequences of the invention are useful in gene therapy and antisense therapy. Note: The sequence data for this patent did not form part of the printed appecification, but was obtained in electronic format directly from MIPO
          31-MAR-2000; 2000US-0540217
23-AUG-2000; 2000US-0649167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI;
                                                                                                                                                        Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                Novel human diagnostic protein #7707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 11; SED ID No 504; 546pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            disorders related to
                                                 30-MAR-2001;
                                                                            11-OCT-2001
                                                                                                        WO200175067-A2
                                                                                                                                  НОШО
                                                                                                                                                                                                                               13-FEB-2002
                                                                                                                                                                                                                                                                                  ABG07716 standard; Protein; 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
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                                                                                                                                                                                                                                                                                                            41
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43 llqmdfg 49
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                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
nes 7; Conser
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7 2000US-0251856.
9 2000US-0251869.
9 2000US-0251869.
9 2000US-0251989.
9 2000US-0251990.
9 2000US-0251997.
9 2000US-0251997.
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                                                 2001WO-US08631
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                                                                                                                                                                                                                            entry)
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                                                                                                                                                                                                                                                                                                                                                                                                      26.9%; Score 7; DB: 100.0%; Pred. No. 17 Live 0; Mismatches
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o. 17;
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ABG17572
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Best Local Similarity
Thehes 7; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CC polymerase chain reaction (PCR) primers, ollyomers, and for chromosome CC and gene mapping, and in recombinant production of (II). The polymerase chain reaction (PCR) primers, ollyomers, and for chromosome CC and gene mapping, and in recombinant production of (II). The polymerase are useful in recombinant production of (II). The polymerase dynamic for generating antibodies against it, detecting or cC (II). (II) is useful for generating antibodies against it, detecting or cquantitating a polymeptide in tissue, as molecular weight markers and as CC a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating CC thanging of sites expressing (II). (I) and (II) are useful for treating CC the polymeride and polymerice of the sequences have applications in CC diagnostics, forensics, gene mapping, identification of mutations in CC diagnostics forensics, gene mapping, identification of mutations CC responsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and CC anino acid sequences. ABG00010-ABG30377 represent novel human cC diagnostic amino acid sequences of the invention.

CC The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO at first the polymeric data for this patent did not appear in the printed content of the invention.
                                                                                                                                                                                                                                      Human; chromosome mapping; gene mapping; gene therapy; forensic food supplement; medical imaging; diagnostic; genetic disorder.
(HYSE-) HYSEQ INC
                                31-MAR-2000;
23-AUG-2000;
                                                                                       30-MAR-2001; 2001WO-US08631
                                                                                                                             11-OCT-2001
                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                               Novel human diagnostic protein #17563.
                                                                                                                                                                                                                                                                                                                                      18-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                          ABG17572;
                                                                                                                                                                                                                                                                                                                                                                                                              ABG17572 standard; Protein; 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 20; SEQ ID No 38075; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess biodiversity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to isolated polynucleotide (I) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB;
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                                  2000US-0540217
2000US-0649167
                                                                                                                                                                                                                                                                                                                                   (first entry)
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100.0%; Pr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
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RESULT 43
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 20; SEQ ID No 47931; 103pp; English.
                                               31-MAR-2000; 2000US-0540217
23-AUG-2000; 2000US-0649167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     biodiversity
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                                                                                                                                                                                                                                        Human; chromosome mapping; gene mapping; gene therapy; forensic;
food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                 ABG07733;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to isolated
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                 (HYSE-) HYSEQ INC
                                                                                                    30-MAR-2001; 2001WO-US08631
                                                                                                                                        11-OCT-2001
                                                                                                                                                                        WO200175067-A2
                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                           Novel human diagnostic protein #7724.
                                                                                                                                                                                                                                                                                                                               13-FEB-2002
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7; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                             (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26.9%; Dr
100.0%; Pr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ed polynucleotide (I) and is useful as hybridisation probes
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o. 78;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes.
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                 Blanc V,
                                                                                                                                                                                                   01-APR-1994.
                                                                                                                                                                                                                                             FR2696189-A.
                                                                                                                                                                                                                                                                                         Streptomyces
                                                                                                                                                                                                                                                                                                                                     blosynthetic
                                                                                                                                                                                                                                                                                                                                                                                                     snaA gene product involved in streptogramin biosynthetic pathway.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-NOV-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAR54202;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR54202 standard; Protein; 422
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                                                             (RHON ) RHONE POULENC RORER SA.
                                                                                                                                                     25-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                         Antibiotic; streptogramin; snaA; snaB; snaC; blosynthesis; enzyme;
                                                                                                           25-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     329 dgflllq
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                 Blanche F,
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                                                                                                                                                                                                                                                                                       pristinaespiralis.
                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
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                                                                                                                                                                                                                                                                                                                                   pathway; Streptomyces
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                                                                                                           92FR-0011441
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                   Crouzet J,
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; Pred. No.
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                   Jacques N,
                                                                                                                                                                                                                                                                                                                                   pristinaespiralis
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                   Lacroix P;
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Thibaut D,

Zagorec M;

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ABG16251
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Best Local
 polypeptide (II) sequences. (I)
             The invention relates to isolated polynucleotide (I) and
                                         Claim 20;
                                                                      diagnostics, forensics, responsible for genetic biodiversity -
                                                                           New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                         Drmanac RT, Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in the biosynthetic pathway means that they can be isolated and manipulated. Mutant microorganisms in which a step in the streptogramin biosynthetic pathway is blocked can be cultured to produce streptogramin intermediates, which may later be converted to streptogramin derivatives. Recombinant cells may also be used for the bioconversion of streptogramins from one form to another or the production of hybrid antibiotics.
                                                                                                                                     N-PSDB;
                                                                                                                                                                                                                             31-MAR-2000;
23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim
                                                                                                                                                                                                                                                                    30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA involved in streptogramin antibiotic biosynthesis - for prodn. or bio-conversion of streptogramin(s) or prodn. of streptogramin intermediates, derivs. or hybrid antibiotics
                                                                                                                                                                                                   (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                               11-OCT-2001
                                                                                                                                                                                                                                                                                                                          WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                         Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                   Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABG16251 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The snaA gene product is involved in the biosynthesis of
                                                                                                                                                                                                                                                                                                                                                                                                                                             18-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABG16251;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11 FGFPEHL 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ptogramins, antibiotics active against Gram-positive bacter identification of the sequences encoding the enzymes involve biosynthetic pathway means that they can be isolated and
                                                                                                                                                2001-639362/73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1994-128286/16.
DB; AAQ64202.
                                                                                                                                                                                                                                                                                                                                                                                                                  human diagnostic protein #16242
                                                                                                                                     AAS80438.
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                                        SEQ
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                                                                                                                                                                                                                              2000US-0540217
2000US-0649167
                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                     ID No 46610; 103pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Protein; 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26.9%;
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as hybridisation probes
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
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ABG15687
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome CC and gene mapping, and in recombinant production of (II). The CC polymucleotides are also used in diagnostics as expressed sequence tags CC for identifying expressed genes. (I) is useful in gene therapy techniques CC (II). (II) is useful for generating antibodies against it, detecting or CC quantitating a polypeptide in tissue, as molecular weight markers and as CC a food supplement. (II) and its binding partners are useful in medical CC limaging of sitcs expressing (II). (I) and (II) are useful for treating CC disorders involving aberrant protein expression or biological activity. CC The polypeptide and polynucleotide sequences have applications in CC diagnostics, forensics, gene mapping, identification of mutations CC responsible for generic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and CC and to produce other types of data and products dependent on biological activity and caid sequences. ABG0010-ABG30377 represent novel human CC diagnostic amino acid sequences of the Invention.

CC Note: The sequence data for this patent did not appear in the printed CC specification, but was obtained in electronic format directly from WIPO at fig., wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                           Claim
                                                                                        biodiversity
                                                                                                   New isolated polynucleotide and encoded polypeptides, us diagnostics, forensics, gene mapping, identification of responsible for genetic disorders or other traits and training.
                                                                                                                                                                         WPI; 2001-639362/73.
N-PSDB; AAS79874.
                                                                                                                                                                                                                        Drmanac
                                                                                                                                                                                                                                                                                     31-MAR-2000;
23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                    30-MAR-2001; 2001WO-US08631
                                                                                                                                                                                                                                                                                                                                                                                                  WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel human diagnostic protein #15678
                                                                                                                                                                                                                                                       (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                     11-OCT-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABG15687;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABG15687 standard; Protein;
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                                                           20;
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                                                           SEQ ID
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                                                                                                                                                                                                                                                                                     2000US-0540217
2000US-0649167
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                                                       46046; 103pp;
                                                                                                                                                                                                                      Tang
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100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           478
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                                                       English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . 89;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                          6
                                                                                                                                      useful in
                                                                                                                    mutations
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The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation polymerase chain reaction (PCR) primers, oligomers, and for

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RESULT
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CN Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO are the format directly from WIPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
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Best Local
              AAH52304 to AAH53970 represent nucleic acids (I) encoding polypeptides (II), given in AAG81454 to AAG83120, from Staphylococcus epidermidis. (I) and (II) can have antibacterial activity and therefore can be used in vaccination. The nucleic acids (I) may be used to produce the S. epidermidis polypeptides (II) via the production of vectors containing them which are used to produce hosts cells which express the containing them which are used to produce hosts cells which express the
                                                                                                                                                                                                                                                WPI;
                                                                                                                                                                                              Nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                   17-MAY-2001.
                                                                                                                                              Claim
                                                                                                                                                                                                                                                                               Kimmerly
                                                                                                                                                                                                                                                                                                                                                09-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                              09-NOV-2000; 2000WO-US30782
                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200134809-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Staphylococcus epidermidis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Staphylococcus epidermidis vaccination; endocarditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-SEP-2001
                                                                                                                                                                                                                                                                                                                 (GLAX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAG82878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAG82878 standard; Protein; 1501 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags
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|||||||
151 dgflllq 157
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 epidermidis open reading
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                            2001-316495/33
                                                                                                                                              18;
                                                                                                                                                                  cacids encoding polypeptides from Staphylococcus epidermidis, for vaccinating against infections, e.g. endocarditis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7; Conserv
                                                                                                                                                                                                                             AAH53728
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                                                                                                                                     Page 742-743; 2188pp; English.
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     The
                                                                                                                                                                                                                                                                                                               GROUP LTD
                                                                                                                                                                                                                                                                                                                                                99US-0164258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             frame protein sequence SEQ ID NO:2850
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Pred. No.
 to produce hosts cells which express (II) (and/or nucleic acids) may then
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              strain; infection; diagnosis,
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91;
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Best Local
Carter KC, Luiz-
Kyaw H, Lafleur DW, Mour-
Kyaw H, Shi Y, Soppet DR,
                                                                                                                                                                              07-NOV-1997;
07-NOV-1997;
07-NOV-1997;
07-NOV-1997;
07-NOV-1997;
                                                                                                                                                                                                                                                   07-NOV-1
07-NOV-1
07-NOV-1
                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; secreted protein; fusion protein; gene therapy; protein therapy; diagnosis; tissue; cancer; tumour; neurodegenerative disorder; leukacmia; developmental abnormality; foetal deficiency; blood; allergy; renal; immune system; asthma; lymphocytic disease; brain; hepatic; lymphoma; inflammation; ischaemic shock; Aliheimer's disease; restenosis; AIDS; cognitive disorder; schizophrenia; prostate; obesity; osteoclast; thymus; osteoporosis; arthritis; testis; lung; thyroiditis; thyroid; digestion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  activity and therefore identify compounds that may be used for the treatment of S. epidermidis infections, e.g. endocarditis. ANIS3971 to ANIS5090 represent specifically claimed S. epidermidis genomic DNA Polynucleotide sequences from the present invention. ANIS5091 to ANIS5098 represent oligonucleotide sequences and primers which are used in the exemplification of the present invention.

N.B. The present invention specifically claims all the polynucleotide sequences given in the sequence listing of the present specification, however the sequence listing only goes up to SEQ ID NO:4454 so even though sequences are given in the disclosure for SEQ ID NO:4455 to 4472, no sequences are present for SEQ ID NO:4455 to 4472.
                                                                                                                                                                  07-NOV-1
                                                                                                                                                                                                                                                                              17-NOV-1997;
                                                                                                                                                                                                                                                                                                                        04-NOV-1998;
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                                                                              (HUMA-) HUMAN
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                                                                                                                                                    07-NOV-1997;
17-NOV-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                    endocrine; metabolism;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human secreted protein encoded by gene No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-JUL-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                used to vaccinate subjects and to raise antibodies against the bacteria. The polypeptides may also be used to assay for other inhibitors of their activity and therefore identify compounds that may be used for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   404 livdfiq 410
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                                                                                                                                                                                                                                                                                                                                                                                                       sapiens
                                                                                                                                                                                                                                                               1997,
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7; Conserv
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                                                                              GENOME
                                                                                                                     97US-0066100
97US-0064900
97US-0064911
97US-0064911
97US-0064913
97US-0064984
97US-0064984
97US-0064988
97US-0064988
97US-0064988
97US-006694
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                                                                              SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                 regulation;
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                                                GA,
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Pred. No.
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                                               Feng
                                                                                                                                                                                                                                                                                                                                                                                                                                malabsorption;
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                                   P, Janat
Olsen HS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1501;
                                                                                                                                                                                                                                                                                                                                                                                                                              gastritis; neoplasm
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Moore PA,

N.

Janat F;

Rogen

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AAB51836
ACC CARREST CONTRACT 
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Best Local S
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to 125 novel genes and their fragments (nucleic acid sequences: AAX84933-X85057; amino acid sequences AAX77567-727933) which are useful for preventing, treating or ameliorating medical conditions e.g. by protein or gene therapy. Also, pathological conditions can be diagnosed by determining the amount of the new polypeptides in a sample or by determining the presence of mutations in the new polypucleotides. Specific uses are described for each of the 125 polynucleotides, based on which tissues they are most highly expressed in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This sequence represents a secreted human protein encoded by the gene clone detailed in the descriptor line. The gene can be used to generate fusion proteins by linking to the gene to a human immunoglobulin FC portion (e.g. AAX84924) for increasing the stability of the fused
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New human secreted proteins and coding sequences useful for treating disorders of the immune system and hyperproliferative disorders
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N-PSDB; AAX85016.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; secreted protein; immunosuppressive; antiarthritic; antirheumati antiprollierative; cytostatic; cardiant; vasotropic; cerebroprotective; nootropic; neuroprotective; antibacterial; virucide; fungicide; opthalmalogical; vulnerary; autoimmune disease; rheumatoid arthritis; opthalmalogical; vulnerary; autoimmune disease; rheumatoid arthritis;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hyperproliferative disorders; cancer; cardiovascular disorder; cardiac arrest; cerebrovascular disorder; nervous system disorder; Alzheimer's disease; ocular disorder; wound healing; skin aging.
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                         N-PSDB;
                                                     WPI; 2000-619227/59
                                                                                                                 Rosen
                                                                                                                                                                                                                                                            09-APR-1999;
20-JAN-2000;
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6; Conserv
                            AAC93488
                                                                                                                                                                       HUMAN GENOME
ROSEN C A.
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                                                                                                                 Ruben SM,
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2000US-0176926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
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                                                                                                                                                                                                       SCI INC
                                                                                                              Komatsoulis
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Pred. No.
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. 35;
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New nucleic acid molecules encoding 49 human secreted proteins for diagnosing, preventing or ameliorating medical conditions and used
                                                                                                                                        food additives or preservatives
                                                                                                                                              for
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516pp; English

CC proteins, polynucleotides, antagonists and agonists may be useful in CC treating, preventing and/or diagnosing diseases and disorders such as CC autoimmune diseases e.g. rheumatoid arthritis, hyperproliferative CC disorders e.g. neoplasms of the breast or liver, cardiovascular disorders (e.g. cardiac arrest, cerebrovascular disorders e.g. cerebral ischaemia, CC angiogenesis, nervous system disorders e.g. Alzheimer's disease, CC infections caused by bacteria, viruses and fungi and ocular disorders (e.g. corneal infection. The polypeptides can also be used to aid wound CC healing and epithelial cell proliferation, to prevent skin aging due to the coulture of primary tissues, to regenerate tissues and in chemotaxis. The CC culture of primary tissues, to regenerate tissues and in chemotaxis. The CC increase or decrease storaege capabilities, fat content, lipid, protein, CC carbohydrate, vitamins, minerals, cofactors and other nutritional CC cused in the isolation and characterisation of the proteins and CC cused in the isolation and characterisation of the proteins and are expressed. Examples of their activities include immunosuppressive; antiarthritic; antirheumatic; antiproliferative; cytostatic; cardiant; vasotropic; cerebroprotective; nootropic; neuroprotective; antibacterial; virucide; fungicide; opthalmalogical; and vulnerary. The secreted AAB51927 represent alternative polypeptides encoded by the genes, and amino acid sequences with which they share homology. The genes and proteins have activities dependent on the tissues and cells in which they Polynucleotide sequences AAC93479 - AAC93527 represent cDNA ence human secreted proteins AAB51827 - AAB51875. Sequences AAB51876 polynucleotides of the invention. represent cDNA encoding

Sequence 31 AA;

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                             Query Match
Best Local
                       Matches
       17 LLVDFL 22
                            Local
9 llvdfl
                       Similarity 6; Conserv
14
                       Conservative
                             23.1%;
100.0%;
                             Score; Pred.
                       0
                        Mismatches
                          10.
No.
                          DB .
                                    21;
                        0;
                                   Length 31;
                        Indels
                        0
                        Gaps
                         0
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AAB38991 RESULT 50

AAB38991 standard; Protein; 42

02-FEB-2001 (first entry)

Human secreted protein #8

Cytostatic; immunosuppressive; nootropic; neuron antiallergic; hepatotropic; antidiabetic; antiin vulnerary; anticonvulsant; antibacterial; antifu cardiant; gene therapy; cancer; immune disorder; neurological disease; Homo sapiens. intection; secreted protein neuroprotective; antiviral; antinflammatory; antilcer; antifungal; antiparasitic; sorder; cardiovascular disorde

WO200056880-A1

28-SEP-2000

16-MAR-2000; 2000WO-US06781

19-MAR-1999; 08-DEC-1999; 99US-0125363 99US-0169617

(HUMA-) HUMAN GENOME SCI INC

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                                                                                                                                                                                                                                                                                                            CC Sequences AAB38971-B39020 represent the amino acid sequences of 50 CC human secreted proteins encoded by the genes AAC59679-C59728. The genes CC and proteins are useful for preventing, ameliorating or treating medical CC conditions, e.g. by protein or gene therapy. The genes are isolated from CC a range of human tissues disclosed in the specification. The nucleic CC diagnosis, antibodies and (ant)agonists are useful in the CC diagnosis, treatment and prevention of: (a) cancer, e.g. breast and CC diagnosis, treatment and prevention of: (a) cancer, e.g. breast and CC diagnosis, treatment and prevention of: (b) cancer, e.g. Addison's disease, autroimmune CC haemolytic anaemia, autoimmune thyroiditis, diabetes mellitus, CC conitis, (c) cardiovascular disorders such as myocardial ischaemias; CC (d) wound healing; (e) neurological diseases e.g. cerebral anoxia and CC epilepsy; and (f) infectious diseases such as viral, bacterial, fungal XXX
                                                                                                                                                                       Query Match 23.1%; Score 6; DB 21; Best Local Similarity 100.0%; Pred. No. 90; Matches 6; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 11; Page 377; 422pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nucleic acid molecules encoding human secreted proteins, used in preventing, treating or ameliorating disorders such as Parkinson's and Alzheimer's diseases, cancers and infections -
                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2000-602220/57.
N-PSDB; AAC59699.
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|1 dgflll 16
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                                                                                                                                                                                                            Length 42;
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Title:
Perfect score:
Sequence:
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No.
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Word size
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                                                                                                                                                               Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                       Score
        protein search, using sw model
                                                                                                    Query
Match
      1000
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26
1 RDGFLLLQMDFGFP
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Gapop 60.0 ,
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//cgn2_6/ptcodata/2/paa/USO6_COMB.pep:*
//cgn2_6/ptcodata/2/paa/USO8_COMB.pep:*
//cgn2_6/ptcodata/2/paa/USO81_COMB.pep:*
//cgn2_6/ptcodata/2/paa/USO81_COMB.pep:*
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//cgn2_6/ptcodata/2/paa/USO85_COMB.pep:*
//cgn2_6/ptcodata/2/paa/USO86_COMB.pep:*
//cgn2_6/ptcodata/2/paa/USO86_COMB.pep:*
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//cgn2_6/ptcodata/2/paa/USO86_COMB.pep:*
//cgn2_6/ptcodata/2/paa/USO90_COMB.pep:*
//cgn2_6/ptcodata/2/paa/USO90_COMB
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  PCT-US99-13975B-106
US-08-432-483-1
US-08-432-483-1
US-08-785-997-29
1 US-08-785-997-29
1 US-08-788-882-29
3 US-08-943-367-29
3 US-08-945-289-1
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Sequence 106, App
Sequence 1, Appli
Sequence 1, Appli
Sequence 29, Appl
Sequence 29, Appli
Sequence 29, Appli
Sequence 1, Appli
                                                                                                    Description
                                                                7 US-09-386-591-29
10 US-09-387-340-29
10 US-09-387-340-29
10 US-09-43-334-1
10 US-09-701-588-101
10 US-09-701-588-111
10 US-09-701-588-113
                         ALIGNMENTS
                                                          Sequence 29, Appl Sequence 10, Appl Sequence 110, App Sequence 111, App Sequence 114, Appl Sequence 28, Appl Sequence 21, Appl Sequence 30, Appl Sequence 10, Appl Sequence 2, Appl Sequence 10, Appl Sequence 11, Appl Sequence 11,
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US-08-432-483-1
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PCT-US99-13975B-106
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                                                                                                                                                                                                                                                                Sequence 1, Application US/08432483 GENERAL INFORMATION:
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ZIP: 10154-0054
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC Windows
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                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                              TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/100,412
FILING DATE: 20-JUNE-1998
ATTORNEY/AGENT INFORMATION:
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TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                              STREET: Chicago
                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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                                                                              COUNTRY: USA
ZIP: 60606-7407
              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Maria H. Lin
REGISTRATION NUMBER: 29,323
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SOFTWARE:
                                                                                                                                                                 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: FILING DATE: 21-JUN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Morgan & Finnegan, L.L.P.
                                                                                                                                                                                                                                                                                                                                                              1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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                                                                                                              Illinois
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                                                                                                                                                Ten South Wacker Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26 amino acids
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VENTION: ARTIFICIAL T HELPER CELL
VENTION: EPITOPES AS IMMUNE STIMU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              212-751-6849
                                                                                                                                                                                                                              RITTERSHOUS, Charles, W. VENTION: MODULATION OF CHOLESTERYL ESTER
                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
WordPerfect 6.1
                                                                                                                                                                Banner & Allegretti, Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          UMBER: PCT/US99/13975B
21-JUNE-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              peptide
                                                                                                                                                                                                              TRANSFER PROTEIN (CETP) ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PEPTIDE IMMUNOGENS
                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 26;
100.0%; Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 26
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                                                                                                                                                                                                                                                                                                                                                                                                                              0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1, Application US/08432483A GENERAL INFORMATION:
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,2:
REFERENCE/DOCKET NUMBER: 9
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: diskette
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC_DOS/MS-
                                                 CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Rittershaus, Charles W.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) ACTIVITY
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
                                                                                                                                       SOFTWARE: WordPerfect 6.1 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PUBLICATION INFORMATION:
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LENGTH: 26 amino acids
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HYPOTHETICAL:
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                                                                                                                                                                                                                                                               STATE: I
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
CLASSIFICATION: 424
                                FILING DATE:
                                                                                                       APPLICATION NUMBER: FILING DATE: 1-May-
                                                                                                                                                                                                                                                                                                       CITY: Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PAGES: 632-634
DATE: 18-JUN-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS: Drayna, Dennis, et al.
TITLE: Cloning and sequencing of human
TITLE: cholesteryl ester transfer cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: Carboxyl terminal 26 amino acids of NAME/KEY: human CETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
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    26 amino acids
amino acid

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327
                                                                                                                                                                                                                                                                                  Illinois
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Ten South Wacker Drive
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                                                                                                                        US/08/432,483A
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RESULT 4
US-08-785-997-29
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; DATE: 18-JUN-1987
; RELEVANT RESIDUES IN SEQ ID NO: 1:FROM 1 TO
US-08-432-483A-1
                                              FILING DATE:
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29.381
REFERENCE/DOCKET NUMBER: MON-101.0 6018/68346
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
TELEPAX: (312)655-1500
INFORMATION FOR SEQ ID NO: 29:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 29, Application US/08785997 GENERAL INFORMATION:
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Best Local Similarity
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REFERENCE/DOCKET NUMBER: 9
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/785,997
                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: An Immunological Process for Increasing
TITLE OF INVENTION: the HDL Cholesterol Concentration
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Needleman, Philip
APPLICANT: Glenn, Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PUBLICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: Chicago
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NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS: Drayna, Dennis, et al.
TITLE: Cloning and sequencing of human
TITLE: Cholesteryl ester transfer cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: Weish & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
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VOLUME: 327
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STRANDEDNESS:
                                ENGTH:
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              amino acid
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; DATE: 1989
US-08-785-997-29
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; DATE: 1989
US-08-788-882-29
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GENERAL INFORMATION:
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Best Local Similarity
                                                                                                                                                                                                                                                                     CLASSIFICATION: 514
ATTORNEY, AGENT INFORMATION:
NAME: Gamson, Edward P.
REGISTRATION UNMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                             TELEFAX: (312)655-1501 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Glenn, Kevin
APPLICANT: Krul, Elaine
APPLICANT: Krul, Elaine
APPLICANT: Gamson, Edward P.
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PUBLICATION INFORMATION:
AUTHORS: Swenson, T. L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS
                                                                                           MOLECULE TYPE: peptide PUBLICATION INFORMATION: AUTHORS: Swenson, T. L.
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JOURNAL:
VOLUME:
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                                                                                                                                                          LENGTH: 26 amino acids
TYPE: amino acid
STRANDEDNESS: single
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                                             VOLUME:
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                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER:
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                                 PAGES:
                                                               JOURNAL:
                                                                                                                                              TOPOLOGY:
                                                                              AUTHORS:
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                                 14318-14326
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120 South Riverside Plaza,
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Pred. No. 1.7e-16;
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RESULT 7
US-08-945-289-1
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                             Sequence 1, Application US/08945289
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (312)655-1501
TELEPAX: (312)655-1501
INPORMATION FOR SEQ ID NO: 20
SEQUENCE CHARGTERISTICS:
LENGTH: 26 amino acids
TYPE: amino acids
TYPE: amino acid
                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 26; Conserv
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GENERAL INFORMATION:
APPLICANT: Needleman, Ph
APPLICANT: Glenn, Kevin
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                                                                                                                                                                                                                                                                                      AUTHORS: Swear.
AUTHORS: et al.,
AUTHORS: J. Biol. Chem.
JOURNAL: J. Biol. Chem.
   APPLICANT:
                                                                                                                                                                                                                                                                VOLUME: 20%
PAGES: 14318-14326
DATE: 1989
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
                                                                                                                                                                                                                                                                                                                                                 PUBLICATION INFORMATION:
AUTHORS: Swenson, T. L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: MON-103.0 6221/69666 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration by DNA
TITLE OF INVENTION: Vaccination
                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE:
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STREET: 15.
TTTY: Chicago
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                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
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                                                                                                                                         1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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illarity 100.0%;
Conservative (
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                Rittershaus, Charles, W.
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                                                                                                                                                                                                Score 26; DB 13;
Pred. No. 1.7e-16;
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... wismatches 0;
                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                              Length 26;
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STREET:
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JOURNAL:
VOLUME:
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Sequence 29, Application US/09386591 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                 APPLICANT: Needleman, Philip APPLICANT: Glenn, Kevin TITLE OF INVENTION: An Immunol TITLE OF INVENTION: for Increa TITLE OF INVENTION: Vaccinatio NUMBER OF SEQUENCES: 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 'INFORMATION FOR SEQ ID NO: 1:
                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PUBLICATION INFORMATION:
AUTHORS: Drayna, Dennis, et al.
TITLE: Cloning and sequencing of human cholesteryl ester transfer cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: May 1,1995
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/945,289
FILING DATE: OCTOBER 17, 1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: WORD 97
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ISSUE: PAGES: 632-634
DATE: 18-JUN-1987
           ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: Carboxyl terminal 26 amino NAME/KEY: acids of human CETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RELEVANT RESIDUES IN SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
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STATE: Massachus
                                                                                                                                                                                                                                                                                                            1 RDGFLLLQMDFGFPEHLLVDFLQSLS
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Chicago
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                                                                       Vaccination
52
                                                                                                    An Immunological Process and Constructs for Increasing the HDL Cholesterol Concentration by DNA
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100.0%; Pred. No.
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               22nd Floor
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1.7e-16;
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MEDIUM TYPE: Floppy

COUNTRY:

USA

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INFORMATION FOR SEQ ID NO: 2
SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
TYPE: amino acid
STRANDEDNESS: single
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
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REGISTRATION NUMBER: 29,381
REPERENCE/DOCKET NUMBER: MON-103.0 6221/69666
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
TELLEPHONE: (312)655-1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                           APPLICANT: Glenn, Kevin
APPLICANT: Krui, Elaine
APPLICANT: Krui, Elaine
APPLICANT: Gamson, Edward P.
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
                                                                                                                                                              COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PUBLICATION INFORMATION:
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MOLECULE TYPE:
                                                                                                                                                                                                                     STREET: Chicago
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PAGES: 1431
DATE: 1989
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                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING THE PC-DOS/MS-DOS
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                                      FILING DATE:
                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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J. Biol. Chem.
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                                                                                        PatentIn Release #1.0, Version #1.30
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100.0%; Pred. No.
tive 0; Mismatch
                                                      US/09/387,340
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: MO
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 29:
                                                                                                  TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
TELEPA: 212-751-6849
INFORMATION FOR SEQ ID NO: 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: peptide PUBLICATION INFORMATION: AUTHORS: Swenson, T. L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAGES: 143
DATE: 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VOLUME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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                                                                                                                                                                                                                        APPLICATION NUMBER: 09/100,414 FILING DATE: 20-JUNE-1998 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                               SOFTWARE: WORD 97
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Morgan & Finnegan, L.L.P.
                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Wang, Chang Y1
TITLE OF INVENTION: NOVEL LHRH PEPTIDE
                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S: et al.,
L: J. Biol. Chem.
264
                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/09/701,588 FILING DATE: 29-NOV-2000 CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14318-14326
                                  TOPOLOGY: linear
                                                   TYPE: amino acid
                                                                                                                                                                      REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible OPERATING SYSTEM: PC Windows
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 10154-0054
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE: NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 345 Park Avenue
                                                                                                                                                                                                          NAME: Maria H. Lin
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100.0%; Pred. No. 1.7e-16;
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 106
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Length 26;

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Best Local Similarity
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LENGTH: 26
                                                                                                       SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1,
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                                                                                                                                                                                                                                     APPLICANT: THOMAS, LAWYENCE J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVITY
EILE REFERENCE: TCS-411.1P US-1; Tcs-411.1P US-2
CURRENT APPLICATION NUMBER: US/09/943,548
CURRENT FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR FILING DATE: 1995-05-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Thomas, Lawrence J.

TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVITY FILE REFERENCE: TCS-411.1P US-1; TCS-411.1P US-2
CURRENT APPLICATION NUMBER: US/09/943,334
CURRENT FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR FILING DATE: 1995-05-01
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                                                                                                                                       PRIOR FILING DATE: 1997-10-17
NUMBER OF SEQ ID NOS: 9
                                                                                                                      SOFTWARE: PatentIn version 3.
                                                                                                                                                                               PRIOR APPLICATION NUMBER: 08/945,289
                                                                                                                                                                                               PRIOR APPLICATION NUMBER: PCT/US96/06147
PRIOR FILING DATE: 1996-05-01
                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Rittershaus, Charles W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: PCT/US96/06147
PRIOR FILING DATE: 1996-05-01
PRIOR APPLICATION NUMBER: 08/945,289
PRIOR FILING DATE: 1997-10-17
NUMBER OF SEQ ID NOS: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Rittershaus, Charles W. APPLICANT: Thomas, Lawrence J.
                         FEATURE:
                                      TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn version 3.1
OTHER INFORMATION: C - terminal 26 amino acids of Human CETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Artificial Sequence
                                                                               ENGTH: 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/09943548
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 26; DB 23;
Pred. No. 1.7e-16;
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Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .7e-16;
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Best Local S
Matches 26
                                                                             Sequence 111, Application PC/TUS9913975B GENERAL INFORMATION:
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GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: UNITED BIOMEDICAL INC., ET AL.
TITLE OF INVENTION: ARTIFICIAL THELPER CELL
TITLE OF INVENTION: EPITOPES AS IMMUNE STIMULATORS FOR SYNTHETIC
TITLE OF INVENTION: PEPITOE IMMUNOGENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
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TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Maria H. Lin
REGISTRATION NUMBER: 29,
                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
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                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: 411-6849
                                                                                                                                                                               21 RDGFLLLQMDFGFPEHLLVDFLQSLS 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 09/100,412 FILING DATE: 20-JUNE-1998
                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM:
SOFTWARE: WORD 9
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345 Park Avenue
                                            UNITED BIOMEDICAL INC., ET AL.

WENTION: ARTIFICIAL T HELPER CELL
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SYSTEM: PC Windows
                                                                                                                                                                                                                                                                                                                                                              linear
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                                                                                                                                                                                                                                                            100.0%; Score 26; 100.0%; Pred. No.
 PEPTIDE IMMUNOGENS
                               EPITOPES AS IMMUNE STIMULATORS FOR SYNTHETIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 26; DB 23; 100.0%; Pred. No. 1.7e-16
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ADDRESSEE: Morgan &

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RESULT 15
US-09-701-588-110
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PCT-US99-13975B-111
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PRIOR APPLICATION NUMBER: 09/100,412

PILING DATE: 20-JUNE-198

ATTORNEY/AGENT INFORMATION:

NAME: Maria H. Lin

REGISTRATION NUMBER: 29,323

REFERENCE/DOCKET NUMBER: 1151-41

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:
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INFORMATION FOR SEQ ID NO: 111:
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LENGTH: 46 amino acids
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC Windows
SOFTWARE: Word 97
CURRENT APPLICATION NUMBER: US/09/701,588
FILING DATE: 29-Nov-2000
CLASSIFICATION: <UNKnown>
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CORRESPONDENCE ADDRESS:

ADDRESSEE: Morgan & Finnegan, L.L.P.

STREET: 345 Park Avenue
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/100,414
FILING DATE: 20-JUNE-1998
ATTORNEY/AGENT INFORMATION:
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STATE: NY
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345 Park Avenue
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TOPOLOGY: Inear

MOLECULE TYPE: peptide

SEQUENCE DESCRIPTION: SEQ ID NO: 111
US-09-701-588-111
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 111, Application US/09701588
GENERAL INFORMATION:
APPLICANT: Wang, Chang Yi
TITLE OF INVENTION: NOVEL LHRH
                                   Matches
                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local :
                                                     Best Local Similarity
                                                                                                                                                                                                                                               TELEPHONE: 212-758-4800
TELEFAX: 212-751-6849
INFORMATION FOR SEQ ID NO: 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO: 110
                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/701,588
FILING DATE: 29-NOV-2000
CLASSIFICATION: CUNKNOWN>
PRIOR APPLICATION DATA:
APPLICATION UNBER: 09/100,414
FILING DATE: 20-JUNE-1998
ATTORNEY/AGENT INFORMATION:
NAME: Maria H. Lin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21 RDGFLLLQMDFGFPEHLLVDFLQSLS 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ZIF: 10154-0054
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatil
                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 46 amino acids
                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Morgan & Finnegan, L.L.P.
STREET: 345 Park Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear MOLECULE TYPE: peptid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 46 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 29,323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible OPERATING SYSTEM: PC Windows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE: 212-758-480
TELEFAX: 212-751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Word 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STATE: NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 29,323 REFERENCE/DOCKET NUMBER: 11
                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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                                                 100.0%;
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                                 0;
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                                                 Score 26; DB 21;
Pred. No. 2.6e-16;
                                 Mismatches
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                                                                                                                                                                                                                                                                                                                      1151-158US1
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                                                                Length 46;
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                                 Indels
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APPLICANT: Carroll, Stephen F.

APPLICANT: Eisenberg, David

TITLE OF INVENTION: BACTERICIDAL/PERMEABILITY-INCREASING PROTEIN:
TITLE OF INVENTION: CRYSTALLIZATION, X-RAY DIFFRACTION, THREE-DIMENSIONAL
TITLE OF INVENTION: STRUCTURE DETERMINATION, RATIONAL DRUG DESIGN AND
TITLE OF INVENTION: MOLECULAR MODELING OF RELATED PROTEINS
FILE REFERENCE: 1103/11034US03
CURRENT APPLICATION NUMBER: US/09/518,598
CURRENT APPLICATION NUMBER: US/09/518,598
CURRENT FILING DATE: 2000-03-03
EARLIER APPLICATION NUMBER: 08/879,565
EARLIER APPLICATION NUMBER: 08/879,565
EARLIER FILING DATE: 1997-06-20
NUMBER OF SEQ ID NOS: 14
SOSTWARE: Patentin Ver. 2.1
SOSTWARE: Patentin Ver. 2.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-518-598-14
                                                                                                         US-09-872-128-14
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                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Ver. 2.1 SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Carroll, Stephen F.
APPLICANT: Eisenberg, David
TITLE OF INVENTION: BACTERICIDAL/PERMEABILITY-INCREASING PROTEIN:
TITLE OF INVENTION: CRYSTALLIZATION, X-RAY DIFFRACTION, THREE-DIMENSIONAL
TITLE OF INVENTION: STRUCTURE DETERMINATION, RATIONAL DRUG DESIGN AND
TITLE OF INVENTION: MOLECULAR MODELING OF RELATED PROTEINS
FILE REFERENCE: 1103/1103/4US03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
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Best Local
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Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                 PRIOR FILING DATE: 2000-03-03
PRIOR APPLICATION NUMBER: 08/879,565
PRIOR FILING DATE: 1997-06-20
NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/872,128
CURRENT FILING DATE: 2001-05-31
PRIOR APPLICATION NUMBER: US/09/518,598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Beamer, Lesa J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Beamer, Lesa J
                                                                                                                            OTHER INFORMATION: cholesteryl ester transfer protein (CETP) (Figure OTHER INFORMATION: 5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
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                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                    ORGANISM: Human
                                                                                                                                                                                                                                     TYPE: PRT
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  100.0%;
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  Score
Pred.
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  26;
  DB 22;
1.7e-15;
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                        Length 470;
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US-08-640-713-4
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RESULT 20
US-08-785-997-28
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                                                                                                         Query Match
Best Local S
Matches 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: WordPerfect 6.1
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                AUTHORS: Drayna, Denn
                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                   ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     445 RDGFLLLQMDFGFPEHLLVDFLQSLS 470
                                                    YOLUME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                    AUTHORS: Drayna, Dennis, et al.
TITLE: Choning and sequencing of human
TITLE: cholesteryl ester transfer CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE: May 1, 1996 CLASSIFICATION: 424
                                                                                                          Local Similarity
nes 26; Conser
                                                                                                                                                                                         DATE: 18-JUN-1987
RELEVANT RESIDUES
RELEVANT RESIDUES
                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/640,713
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Banner & Allegretti, Ltd STREET: 75 State Street
                                                                                                                                                                                                                                                                           JOURNAL:
                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: Amino acid sequence of mature human
                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
                                                                             1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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                                                                                                                                                                                                                                   632-634
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VENTION: PLASMID-BASED VACCINE FOR TREATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                           Nature
                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                              linear
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                                                                                                         Score 26; DB 10;
Pred. No. 1.7e-15;
Mismatches 0;
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                                                                                                                                     Length 476;
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US-08-788-882-28
                                                                                                                                                 RESULT
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                                                                                              Sequence 28, Application US/08788882 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: MON-101.0 6018/68346
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
 TITLE OF
                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS: Lay...,
AUTHORS: Jarnagin, Alisha Stephens
AUTHORS: McLean, John
AUTHORS: Henzel, William
AUTHORS: Kohr, William
AUTHORS: Fielding, Christopher
AUTHORS: Lawn, Richard
TITLE: Cloning and sequencing of human cholesteryl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PUBLICATION INFORMATION:
AUTHORS: Drayna, Dennis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
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Chicago
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: An Immunological Process for Increasing TITLE OF INVENTION: the HDL Cholesterol Concentration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Needleman, Philip APPLICANT: Glenn, Kevin
                                                                                APPLICANT: Needleman, Philip
                                 APPLICANT:
                                                                                                                                                                                                451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Gamson Ph.D., Edward P. REGISTRATION NUMBER: 29,381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/08/785,997 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM:
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                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS: sir
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                            60606
                                                                                                                                                                                                                                                                              Similarity
T: Gamson, Edward P. INVENTION: An Immun.
                                                                                                                                                                                                                                                                                                                                                              June 18-1987
                                                                                                                                                                                                                                                                                                                                                                                632-634
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120 South Riverside Plaza, 22nd Floor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (312)655-1501
                                                Glenn, Kevin
Krul, Elaine
                                                                                                                                                                                                                                                              Conservative
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SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                        100.0%; 5c
100.0%; P;
An Immunological Process and Constructs for Increasing the HDL Cholesterol Concentration
                                                                                                                                                                                                                                                                            Score 26;
Pred. No.
                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                            1.7e-15;
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US-08-802-967A-4
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US-08-788-882-28
                                                                                                                                                                                       GENERAL INFORMATION:
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Best Local Similarity
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/788,882
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TELECOMMUNICATION INFORMATION:
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                                                                                                                                                            APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: PLASMID BASED VACCINE FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PUBLICATION INFORMATION:
AUTHORS: Drayna, Dennis
AUTHORS: Jarnagin, Alisha Stephens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
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COMPUTER READABLE FORM:
                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                TITLE OF INVENTION:
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                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                               451 RDGFLLLQMDFGFPEHLLVDFLQSLS 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
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                                                STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE: Cloning and sequencing of human cholesteryl TITLE: ester transfer protein cDNA
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                              COUNTRY:
                                                              CITY: Cambridge
                                                                                STREET:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL: Nature VOLUME: 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY:
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                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                             1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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                                                                                                                                                                                                             Application US/08802967A
                                                Massachusetts
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Henzel, William
Kohr, William
Fielding, Christopher
Lawn, Richard
                                                                              130 Bishop Allen Drive
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120 South Riverside Plaza, 22nd Floor
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                                 USA
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                                                                                              Yankwich & Associates
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Pred. No. 1
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1.7e-15;
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TYPE:

Floppy disk

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DATE: 18-JUN-1987;
: RELEVANT RESIDUES IN SEQ ID NO: 4: FROM 1 TO 476
US-08-802-967A-4
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APPLICATION UNBER: 09/640,713
FILING DATE: 01-MAY-1996
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,237
REFERENCE/DOCKET NUMBER: TCS 414
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 28, Application US/08934367
GENERAL INFORMATION:
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                 SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: An Immunological Process and Constructs TITLE OF INVENTION: for Increasing the HDL Cholesterol Concurred to Finvention: Vaccination
                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Needleman, PlaPPLICANT: Glenn, Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Word 7
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: peptide HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ANTI-SENSE:
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                                                                                                                                                                                                STREET: 120 Sc
CITY: Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS: Drayna, Dennis, et al.
TITLE: Cloning and sequencing of human
TITLE: cholesteryl ester transfer cDNA
                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL: Na
VOLUME: 327
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acid
TOPOLOGY: linear
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    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                 for Increasing the HDL Cholesterol Concentration by DNA Vaccination
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us/08/934,367
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GENERAL INFORMATION:
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Best Local (
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                               APPLICATION NUMBER: 08/4:
FILING DATE: May 1,1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                         CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Rittershaus, Charles, W. APPLICANT: Thomas, Lawrence J. TITLE OF INVENTION: MODULATION OF C
                                                                                                     CLASSIFICATION: 514
PRIOR APPLICATION DATA:
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NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    451 RDGFLLLQMDFGFPEHLLVDFLQSLS 476
                                                                                                                                                                                                                                                                                                                   STREET: 130 bic.
CITY: Cambridge
                                                                                                                                                                                       COMPUTER: IBM PC OPERATING SYSTEM: SOFTWARE: Word 97
                                                                                                                                      APPLICATION NUMBER: US/08 FILING DATE: October 17,
                                                                                                                                                                                                                                                                            COUNTRY: U
ZIP: 02139
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS: McLean, John
AUTHORS: Henzel, William
AUTHORS: Henzel, William
AUTHORS: Fielding, Christopher
AUTHORS: Fielding, Christopher
AUTHORS: Lawn, Richard
TITLE: Cloning and sequencing of human cholesteryl
TITLE: ester transfer protein cDNA
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                      REGISTRATION
                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
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Leon R. 14.
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IBM PC compatible
SYSTEM: Windows 95
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r 17, 1997
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Pred. No. 1.7e-15;
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US-08-954-643-1
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Best Local
                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Leon R, Yankwich
REGISTRATION NUMBER: 30,237
REFERENCE/DOCKET NUMBER: TC:
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: Windows 95
SOFTWARE: WORD 97
                                                                                                                                                                                           APPLICATION NUMBER: US/08/954,643
FILING DATE: concurrently herewith
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Rittershaus, Charles, W. APPLICANT: Thomas, Lawrence J. TITLE OF INVENTION: XENGENEIC CHOLTITLE OF INVENTION: TRANSFER PROTEI
                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
ADDRESSEE: Yankwich & Associates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PUBLICATION INFORMATION:
                                                                SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ANTI-SENSE:
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NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Cambridge
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RELEVANT RESIDUES IN SEQ ID NO:
                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS: Drayna, Dennis, et al.
TITLE: Cloning and sequencing of human cholesteryl ester transfer cDNA
                                              LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ISSUE:
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                              : 476 amino acids
amino acid
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peptide
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TRANSFER PROTEIN (CETP) FOR MODULATION OF CETP
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Pred. No. 1.7e-15;
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; DATE: 18-JUN-1987
; RELEVANT RESIDUES IN SEQ ID
US-08-954-643-1
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Matches 26; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                           TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 28:
                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: An ImmunologITITLE OF INVENTION: for Increas
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APPLICANT: Glenn, Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PUBLICATION INFORMATION:
AUTHORS: Drayna, Denn
                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                    PUBLICATION INFORMATION:
                                                                                                                                                                       MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      451 RDGFLLLQMDFGFPEHLLVDFLQSLS 476
                                                                                                                     AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
LOCATION:
                                   AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC OPERATING SYSTEM:
                                                                                                                                                                                      LENGTH: 476 amino acids TYPE: amino acid STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Welsh & Katz, Ltd. STREET: 120 South Riverside Plaza,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE: Cloning and sequencing
TITLE: ester transfer cDNA
                                                                    AUTHORS:
                                                                                         AUTHORS:
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Cloning and sequencing of human cholesteryl ester transfer protein cDNA
                               McLean, John
Henzel, William
Kohr, William
Fielding, Christopher
Lawn, Richard
                                                                                                                                     Drayna, Dennis
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IBM PC compatible
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Pred. No. 1.7e-15;
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; DATE: June 18-1987
US-09-386-591-28
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US-09-387-340-28
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Best Local :
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INFORMATION FOR SEQ ID NO: 3
SEQUENCE CHARACTERISTICS:
LENGTH: 476 amino acids
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APPLICANT:
APPLICANT:
APPLICANT:
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REFERENCE/DOCKET NUMBER: MO
TELECOMMUNICATION INFORMATION:
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NAME: Gamson, Edward P.
REGISTRATION NUMBER: 29,
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
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TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
                                                                                                                                                                                                                               PUBLICATION INFORMATION:
AUTHORS: Drayna, Dennis
                                                                                                                                                                                                                                                                     MOLECULE TYPE:
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OPERATING SYSTEM: PC-DOS/MS-DOS
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CITY: Chicago
                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
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                                                VOLUME:
                                                                     JOURNAL:
                                                                                    TITLE: ester transfer protein cDNA
                                                                                                       TITLE:
                                                                                                                                          AUTHORS: Kohr, William
AUTHORS: Fielding, Christopher
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               June 18-1987
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                                                                                                     : Lawn, Richard
Cloning and sequencing of human cholesteryl
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McLean, John
Henzel, William
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(312)655-1501
POR SEQ ID NO: 28:
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Krul, Elaine
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100.0%; Pred. No.
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SOFTWARE: PatentIn Ver.; SEQ ID NO 1; LENGTH: 476; TYPE: PRT; ORGANISM: Homo sapiens US-09-529-762 1
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Best Local S
Matches 26
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                                                                                                                                                                                     SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
                                                 Best Local
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Best Local Similarity
                                  Matches
                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 08/432,483
PRIOR FILING DATE: 1995-05-01
PRIOR APPLICATION NUMBER: PCT/US96/06147
PRIOR FILING DATE: 1996-05-01
PRIOR PPLICATION NUMBER: 08/945,289
PRIOR FILING DATE: 1997-10-17
NUMBER: OF SEQ ID NOS: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: Xenogeneic Cholesteryl Ester Transfer Protein (CETP for TITLE OF INVENTION: Modulation of CETP Activity FILE REFERENCE: sequence listing for TCS-420.1 PCT CURRENT APPLICATION NUMBER: US/09/529,762
CURRENT FILING DATE: 2000-04-18
                                                                                                                                                                                                                                                                                                                                        APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MODULATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVI
FILE REFERENCE: TCS-411.1P US-1; Tcs-411.1P US-2
CURRENT APPLICATION NUMBER: US/09/943,334
CURRENT ELING DATE: 2001-08-30
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                                                                                                                                                      LENGTH: 476
TYPE: PRT
                                                                                                                                    ORGANISM: Homo Sapiens
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                                 th 100.0%; Similarity 100.0%; 26; Conservative 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rittershaus, Charles
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llarity 100.0%;
Conservative 0
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Pred. No.
                               Score 26; DB 20,
Pred. No. 1.7e-15;
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Pred. No. 1.7e-
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1.7e-15;
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1 7e-15;
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US-08-785-997-30
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US-09-943-548-4
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GENERAL INFORMATION:
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Best Local Similarity
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APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: MOULDATION OF CHOLESTERYL ESTER TRANSFER PROTEIN (CETP) ACTIVITY
FILE REFERENCE: TCS-411.1P US-1; TCS-411.1P US-2
CURRENT APPLICATION NUMBER: US/09/943,548
CURRENT FILING DATE: 2001-08-30
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR APPLICATION NUMBER: 08/432,483
PRIOR FILING DATE: 1995-05-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR FILING DATE: 1997-10-17
NUMBER OF SEQ ID NOS: 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: PCT/US96/06147
PRIOR FILING DATE: 1996-05-01
                                                               TELEFAX: (312)655-150
INFORMATION FOR SEQ ID NO:
                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-101.0 6018/68346
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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                                          SEQUENCE CHARACTERISTICS:
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Needleman, Philip
APPLICANT: Glenn, Kevin
TITLE OF INVENTION: An Immunological Process for Increasing
TITLE OF INVENTION: the HDL Cholesterol Concentration
                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: Chicago
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                                                                                                                                                                                                                                        APPLICATION NUMBER: US/08/785,997 FILING DATE:
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                                                           (312)655-1501
(317) TD NO: 30:
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INFORMATION FOR SEQ ID NO: 30:
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ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
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APPLICANT: Krul, Elaine
APPLICANT: Krul, Elaine
APPLICANT: Gamson, Edward P.
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
NUMBER OF SEQUENCES: 50
                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: MC
TELECOMMUNICATION INFORMATION:
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APPLICATION NUMBER: US/08/788,882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
                                                         MOLECULE TYPE: protein PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                         CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Gamson, Edward P.
REGISTRATION NUMBER: 29,
                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
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                                                                                                              TYPE: amino acid
STRANDEDNESS: sir
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OPERATING SYSTEM: PC-DOS/MS-DOS
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                                        AUTHORS:
                                                                                               TOPOLOGY:
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Nov/Dec-1991
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Molecular Cloning, Sequence, and
of Cynomolgus Monkey Cholesteryl
                                                                                                                                                        493 amino acids
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Pape, Michael E.
Rehberg, Edward F.
Marotti, Keith R.
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Rehberg, Edward F.
Marotti, Keith R.
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Best Local
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INFORMATION FOR SEQ ID NO: 30:
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MEDIUM TYPE: Floppy disk
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TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration by DNA
TITLE OF INVENTION: Vaccination
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 514
ATTONNEY/AGENT INFORMATION:
NAME: Gamson Ph. D., Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-103.0 6221/69666
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PAGES:
                                                                                    AUTHORS: Pape, Michael E.
AUTHORS: Rehberg, Edward F.
AUTHORS: Marotti, Keith R.
AUTHORS: Melchior, George W.
TITLE: Molecular Cloning, Sequence, and Expression
TITLE: of Cynomolgus Monkey Cholesteryl Ester Transfer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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ISSUE:
PAGES:
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                                   VOLUME:
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                                                                        TITLE:
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Molecular Cloning, Sequence, and Expression
of Cynomolgus Monkey Cholesteryl Ester Transfer
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                                                                                                                                                                                                                                                                                           493 amino acids
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120 South Riverside Plaza, 22nd Floor
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                                                     Arteriosclerosis and Thrombosis
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Pred. No. 1.8e-15;
0; Mismatches 0;
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US-09-054-272-14
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RESULT 35
US-09-054-272-48
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GENERAL INFORMATION:
APPLICANT: Lander, Eric S.
APPLICANT: Daley, George Q.
APPLICANT: Cargill, Michele
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
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                                                                                                                                     Matches
                                                                                                                                                    Best Local Similarity
                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Cargill, Michele
APPLICANT: Ireland, James S.
APPLICANT: Rozen, Steven G.
TITLE OF INVENTION: CODING SEQUENCE POLYMORPHISMS
TITLE OF INVENTION: IN VASCULAR PATHOLOGY GENES
NUMBER OF SEQUENCES: 59
                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS
LENGTH: 493 amino acid
                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
TELEPHONE: 781-861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: 01-APR-1998
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: FastSEQ for Windows Version 2.0b
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 468 RDGFLLLQMDFGFPEHLLVDFLQSLS 493
                                                                  468 RDGFLLLQMDFGFPEHLLVDFLQSLS 493
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                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM CON
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: Two Mil:
CITY: Lexington
                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: 781-861-520
TELEFAX: 781-861-9540
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: HAMILTON, BROOK, STREET: Two Militia Drive
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                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                           TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
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                                                                             1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
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                                                                                                                                                    100.0%; Score 26; DB 14; 100.0%; Pred. No. 1.8e-15;
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                                                                                                                                     Mismatches
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US-09-386-591-30
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Best Local Similarity
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MOLECULE TYPE:
FRAGMENT TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Daley, George Q.
APPLICANT: Cargill, Michele
APPLICANT: Ireland, James S.
APPLICANT: Rozen, Steven G.
TITLE OF INVENTION: CODING SEQUENCE POLYNORPHISMS
TITLE OF INVENTION: IN VASCULAR PATHOLOGY GENES
NUMBER OF SEQUENCES: 59
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows 95
SOFTWARE: FastSEQ for Windows Version 2.0b
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/09
FILING DATE: 01-APR-1998
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                              TITLE OF INVENTION: An immunological process and Constructs TITLE OF INVENTION: for Increasing the HDL Cholesterol ConcITILE OF INVENTION: Vaccination
NUMBER OF SEQUENCES: 52
                                                                                                                                                                   APPLICANT: Needleman, Philip
APPLICANT: Glenn, Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Granahan, Patricia REGISTRATION NUMBER: 32,227 REFERENCE/DOCKET NUMBER: WH! TELECOMMUNICATION INFORMATION: 781-861-6240
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CITY: Lexington
STATE: MA
STATE: IL
COUNTRY: USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
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                              Chicago
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linear
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internal
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                                                                                                                                 HDL Cholesterol Concentration by DNA
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Best Local S
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VOLUME:
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                                                                                                                 COUNTRY:
                                                                                                                                                      CITY:
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                                                                                                  60606
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                                                                                                                   USA
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Sequence 30, Application US/09387340 GENERAL INFORMATION:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                             APPLICANY: Gamson, Edward P.
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
NUMBER OF SEQUENCES: 50
                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Needleman, Philip
APPLICANT: Glenn, Kevin
APPLICANT: Krul, Elaine
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TELEFAX: (312)655-1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edwa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PUBLICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS: Pape, Michael E.
AUTHORS: Rehberg, Edward F.
AUTHORS: Marctti, Keith R.
AUTHORS: Melchior, George W.
TITLE: Molecular Cloning, Sequence, and Expression
TITLE: of Cynomolgus Monkey Cholesteryl Ester Transfer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Gamson Ph.D., Edward P. REGISTRATION NUMBER: 29,381 REFERENCE/DOCKET NUMBER: MON-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/09/386,591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
                                                                                                                                                                                                                 ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nov/Dec-1991
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29,381
3ER: MON-103.0 6221/69666
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Pred. No. 1.8e-15;
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ATTORNEY/AGENT INFORMATION:

Gamson,

Edward P.

APPLICATION NUMBER: FILING DATE: CLASSIFICATION:

US/09/387,340

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                                                                                                                                                                                                   ; ORGANISM: Homo sapien US-09-802-640-12
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 12, Application US/09802640 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                 APPLICANT: Braun, Andreas
APPLICANT: Bonsal Aruna
APPLICANT: Bonsal Aruna
APPLICANT: Kleyn Pattick
TITLE OF INVENTION: GENES AND POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: CARDIOVASCULAR DISEASE AND THEIR USE
FILE REFERENCE: 24736-2048
CURRENT APPLICATION NUMBER: US/09/802,640
CURRENT FILIG DATE: 2001-03-09
                                                                                                                                  Best
                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 30:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: MO
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 493 amino acids
                                                                                                                                                                                                                                                    LENGTH: 493
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         468 RDGFLLLQMDFGFPEHLLVDFLQSLS 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS: Pape, Michael E.
AUTHORS: Rehberg, Edward F.
AUTHORS: Marotti, Keith R.
AUTHORS: Melchior, George W.
TITLE: Molecular Cloning, Sequence, and Expression
TITLE: of Cynomolgus Monkey Cholesteryl Ester Transfer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER:
                                               468 RDGFLLLQMDFGFPEHLLVDFLQSLS 493
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                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
39
                                                                  1 RDGFLLLQMDFGFPEHLLVDFLQSLS 26
                                                                                                                    26;
                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 amino acid
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Nov/Dec-1991
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                                                                                                                  Conservative
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                                                                                                                                  100.0%; Score 26; 100.0%; Pred. No.
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Pred. No. 1.8e-15;
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                                                                                                                    Mismatches
                                                                                                                                                     DB 22;
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US-08-785-997-10; Sequence 10, Application US/08785997; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                  ; Sequence 34, Application US/08785997 ; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (312)655-1501 INFORMATION FOR SEQ ID NO: 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/785,997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: WON-101.0 6018/68346
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: An Immunological Process for Increasing TITLE OF INVENTION: the HDL Cholesterol Concentration NUMBER OF SEQUENCES: 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Needleman, Philip APPLICANT: Glenn, Kevin
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/785,997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
TYPE: amino acid
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ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                             APPLICANT: Needleman, Philip
APPLICANT: Glenn, Kevin
TITLE OF INVENTION: An Immunological Process for Increasing
TITLE OF INVENTION: the HDL Cholesterol Concentration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 12.
                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
                                                                                                                                                                             STREET: 120 SO
CITY: Chicago
STATE: IL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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les 22; Conserv
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                                                                                                                                            ZIP: 60606
                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                   ADDRESSEE: Welsh & Katz, Ltd. STREET: 120 South Riverside Plaza,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 LLLQMDFGFPEHLLVDFLQSLS 22
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120 South Riverside Plaza, 22nd Floor
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100.0%; Pred. No.
tive 0; Mismatc
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                                                                                                                                                                                                                         22nd Floor
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6.8e-13;
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ATTORNEY/AGENT INFORMATION: NAME: Gamson Ph.D., Edwa

CLASSIFICATION:

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TOPOLOGY: 1:
; MOLECULE TYPE:
US-08-788-882-10
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; INFORMATION: (312)655-1501
; INFORMATION FOR SEQ ID NO: 34:
SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino Type:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 10, Application US/08788882 GENERAL INFORMATION:
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                                                                               TELEPHONE: (312)655-1500
TELEPHONE: (312)655-1501
TELEPAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERRISTICS:
LENGTH: 22 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: line
                                                                                                                                                                                                                                                           COMPUTER REALABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC comparible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/788,882
FILING DATE:
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Gleno, Kevin
APPLICANT: Krul, Elaine
APPLICANT: Krul, Elaine
TITLE OF INVENTION: An Immunological Process and Const.:ucts
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
ANAE: Gamson, Edward P.
REGISTRATION NUMBER: 29,381
REBERENCE/DOCKET NUMBER: MON-102.0 6018/69242
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REGISTRATION NUMBER: 29,381
RESERRENCE/DOCKET NUMBER: MON-101.0 6018/68346
TELECOMMUNICATION INFORMATION:
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CITY: Chicago
                                             LENGTH: 22 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 100.
nes 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP: 60606
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120 South Riverside Plaza, 22nd Floor
                       linear
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Pred. No.
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6.8e-13;
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Query Match

84.6%;

Score 22;

DB 11;

Length 22;

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; TOPOLOGY: linear; MOLECULE TYPE: peptide US-08-788-882-34
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TELEPHONE: (312)655-1500
TELEPAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 34:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PAtentin Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER: US/08/788,882
FILING DATE:
FILING DATE:
CIACCULTURE DATE:
CIACULTURE DATE:
CIACCULTURE DATE:

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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
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ATTORNEY/AGENT INFORMATION:
NAME: Gamson, Edward P.
REGISTRATION NUMBER: 29,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, '22nd Floor
                                                                                                                                                    APPLICANT: Glern, Kevin
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration by DNA
TITLE OF INVENTION: Vaccination
                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Needleman, Philip APPLICANT: Glenn, Kevin
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TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
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                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
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TYPE: amino acid
STRANDEDNESS: single
TOTAL COLUMN AND ACID COLUMN AND 
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      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5 LLLQMDFGFPEHLLVDFLQSLS 26
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Welsh & Katz, Ltd
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Mismatches 0;
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STREET: 120 SC CITY: Chicago STATE: IL

120 South Riverside Plaza, 22nd Floor

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; MOLECULE TYPE: peptide US-08-934-367-10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 10:
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Gamson ph.D., Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-103.0 6221/69666
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
TELEPHAX: (312)655-1501
                                                                                                                                                           COMPUTER READABLE FORM:
MEDICIM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOUTHARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER: US/08/934,367
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/934,367
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Needleman, Philip
APPLICANT: Glenn, Kevin
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration by DNA
TITLE OF INVENTION: Vaccination
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NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-103.0 6221/69666
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS
LENGTH: 22 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                STREET: 120 SOU
CITY: Chicago
STATE: IL
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TYPE: amino acid
STRANDEDMENS: single
                                                                                                                                                                                                                                                                                                                           ZIP: 60606
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                                                                                                                                                                                                                                                                                                                                          COUNTRY:
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linear
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; Pred. No.
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US-09-386-591-34

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                                                                                                                     Query Match
Best Local Similarity
These 22; Conserve
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ARDIUM TYPE: PLOPPY disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTION DATA:
APPLICATION NUMBER: US/09/386,591
FILING DATE:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Gamson Ph.D., Edward P.
REGISTRATION NUMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-103.0 6221/69666
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
TELEPHONE: (312)655-1500
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Best Local :
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INFORMATION FOR SEQ ID NO: 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
TYPE: amino acid
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ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
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APPLICANT: Glenn, Kevin
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration by DNA
TITLE OF INVENTION: Vaccination
NUMBER OF SEQUENCES: 52
                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: peptide
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CITY: Chicago
STATE: IL
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TOPOLOGY: linear
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                                                                       5 LLLQMDFGFPEHLLVDFLQSLS 26
1 LLLQMDFGFPEHLLVDFLQSLS
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                                                                                                                                                       Conservative
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                                                                                                                                                   0;
22
                                                                                                                                                                                    Score 22;
; Pred. No.
                                                                                                                                                       Mismatches
                                                                                                                                                                                        DB 17;
. 6.8e-13;
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; SEQUENCE CHARACTERISTICS:

; LENGTH: 22 amino acids

; TYPE: amino acid

STRANDEDNESS: single

; TOPOLOGY: linear

; MOLECULE TYPE: peptide

US-09-386-591-34
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GENERAL INFORMATION:
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Best Local S
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NAME: Gamson Ph.D., Edward P.
REGISFRATION UNMBER: 29,381
REFERENCE/DOCKET NUMBER: MON-103.0 6221/69666
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)655-1500
TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO: 34:
                                                                                                                       APPLICANT: Krul, Elaine
APPLICANT: Gamson, Edward P.
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION:
TITLE OF INVENTION:
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               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
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APPLICANT: Glenn, Kevin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STATE: IL
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 120 Sc
CITY: Chicago
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nes 22; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/09/386,591
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                                                                                                                  COUNTRY:
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120 South Riverside Plaza, 22nd Floor
                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                   Glenn, Kevin
Krul, Elaine
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Patentin Release #1.0, Version #1.30
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100.0%; Pred. No.
tive 0; Mismatc
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; MOLECULE TYPE: US-09-387-340-34
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Best Local :
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                                                                                                                                                                                                                 TELEFAX: (312)655-1501
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER:
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ADDRESSEE: Welsh & Katz, Ltd.
STREET: 120 South Riverside Plaza, 22nd Floor
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LENGTH: 22 amino acids
TYPE: amino acid
TYPE: amino acid
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NAME: Gamson, Edward P.
REGISTRATION NUMBER: 29,381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/387,34
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APPLICANT: Krui, Elaine
APPLICANT: Krui, Elaine
APPLICANT: Krui, Elaine
TITLE OF INVENTION: An Immunological Process and Constructs
TITLE OF INVENTION: for Increasing the HDL Cholesterol Concentration
NUMBER OF SEQUENCES: 50
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ATTORNEY/AGENT INFORMATION:
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                                                     LENGTH: 22 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
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nes 22; Conserv
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TOPOLOGY: lir
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100.0%; Pred. No.
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. 6.8e-13;
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RESULT 49
US-08-954-643-6
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                                                                                                                                                         US-09-529-762-6
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US-08-954-643-6
                                                                                                                                                                          RESULT
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Best Local Similarity 100.
                                                            Sequence 6, Application US/09529762
GENERAL INFORMATION:
APPLICANT: AVANT Immunotherapeutics,
APPLICANT: Rittershaus, Charles
APPLICANT: Thomas, Lawrence
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                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
APPLICANT: Thomas, Lawrence
TITLE OF INVENTION: Xenogene
TITLE OF INVENTION: Modulation
FILE REFERENCE: Sequence
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APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: XENOGENEIC CHOLESTERYL ESTER
TITLE OF INVENTION: TRANSFER PROTEIN (CETP) FOR MODULATION OF CETP ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,237
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MEDIUM TYPE: floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Yankwich & Associate
STREET: 130 Bishop Allen Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 496 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
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LENGTH: 496 amino acid
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APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                               475 LLLQMDFGFPEHLLVDFLQSLS 496
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY: U.S.A.
ZIP: 02139
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STATE: MA
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                                                                                                                                                                                                                                                                                                    Conservative
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IBM PC compatible
SYSTEM: Windows 95
                                                                                                                                                                                                                                                                                                                                                                                                         amino acid sequence for a humanized rabbit CETP protein
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           NN: Xenogeneic Cholesteryl Ester Transfer Protein (CETP NN: Modulation of CETP Activity sequence listing for TCS-420.1 PCT
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100.0%; Pr
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100.0%; Pred. No.
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; Pred. No. 6.8e-13;
0; Mismatches 0;
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; OTHER INFORMATION: Description of Artificial Sequence: humanized; OTHER INFORMATION: rabbit CETP protein US-09-529-762-6
Search completed: June 19, 2002, 11:10:11 Job time: 200 sec
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                                                                                                                                                                                                                                                                                                 SEQ ID NO 6
LENGTH: 496
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                Query Match
Best Local Similarity
Matches 22; Conserv
                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/529,762
CURRENT FILING DATE: 2000-04-18
PRIOR APPLICATION NUMBER: USSN 08/954,643
PRIOR FILING DATE: 1997-10-20
NUMBER OF SEQ ID NOS: 7
                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE:
                                                                                   475 LLLOMDEGEPEHLLVDFLQSLS 496
                                                                                                     5 LILQMDFGFPEHLLVDFLQSLS 26
                                                                                                                                                                                                                                                                                                                                                                    PatentIn Ver. 2.1
                                                                                                                                                    Conservative
                                                                                                                                                                  84.6%; Score 22;
100.0%; Pred. No.
                                                                                                                                                    0;
                                                                                                                                                       Mismatches
                                                                                                                                                                      DB 19;
8.5e-12;
                                                                                                                                                                                    Length 496;
                                                                                                                                                       Indels
                                                                                                                                                       0,
                                                                                                                                                       Gaps
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Minimum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Title:
Perfect score:
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/cgn2_6/ptodata/2/paa/US07_NEW_COMB.pep:*
/cgn2_6/ptodata/2/paa/US08_NEW_COMB.pep:*
/cgn2_6/ptodata/2/paa/US09_NEW_COMB.pep:*
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       GenCore version (c) 1993 - 2000
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US-09-523-033A-3
US-09-523-023A-3
US-09-935-625-15267
US-10-105-299-4676
US-10-106-698-4318
US-10-106-698-4318
US-60-360-039-12488
US-60-360-039-13333
US-60-360-039-17696
US-60-360-039-17696
US-09-540-209B-5750
US-09-540-209B-5750
US-10-145-415-20
US-10-145-415-20
US-10-145-415-20
US-10-145-415-20
US-10-145-415-30
US-10-145-415
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Sequence
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4316, App 423, App 13333, A 17586, A 17
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3, Appli
15267, A
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US-09-446-415B-6
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NUMBER OF SEQ ID NOS: 12
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 6
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Sequence 5781, Ap	equence 547,	equence 548,	equence 991, A	equence 8319,	equence 175. A	equence 896	equence 0410,	77.44	equence 6321,	537,	equence 56, A	equence 58	equence 253,	equence 281.	edirence	equence 54,	equence 57,	55,	equence 466,	equence 462,	equence 7059,	equence 6077,	equence 680. A	ednence 23	equence 5161,	equence 5159,	equence 750,	equence 10	ence 4199,	equence 5700,	ence 556	equence 4607,	equence 636, A	3 2	equence 200,	ence 29	equence 221,	equence 15	equence 270,	equence 19. A	Sequence 3886, App	1

## ALIGNMENTS

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APPLICANT: Beamer, Lesa J.
APPLICANT: Eisenberg, David
APPLICANT: Eisenberg, David
APPLICANT: Eisenberg, David
APPLICANT: Eisenberg, David
APPLICANT: Carroll, Stephen F.
TITLE OF INVENTION: BACTERICIDAL/PERMEABILITY-INCREASING PROTEIN:
TITLE OF INVENTION: CRYSTALLIZATION, X-RAY DIFFRACTION, THREE-DIMENSIONAL
TITLE OF INVENTION: STRUCTURE DETERMINATION, RATIONAL DRUG DESIGN AND
TITLE OF INVENTION: MOLECULAR MODELING OF RELATED PROTEINS
FILE REFERENCE: 11034US02
CURRENT FILING DATE: 11034US02
CURRENT FILING DATE: 2000-07-19
PRIOR APPLICATION NUMBER: 08/879,565
PRIOR ETLING DATE: 1997-06-20
WINDERS OF STATE APPLICATION NUMBER: 08/879,565
PRIOR FILING DATE: 1997-06-20
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RESULT 3
US-09-935-625-15267
; Sequence 15267, Application US/09935625
; GENERAL INFORMATION:
; APPLICANT: N. ALEXANDROV et al.
                                                                                                                                                    ; NAME/KEY: peptide
; LOCATION: 1..405
; OTHER INFORMATION:
US-09-935-625-15267
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                                                                                                                                                                                                                                                                            : NUMBER OF SEQ ID NOS: 33136
: SEQ ID NO 15267
: LENGTH: 405
: TYPE: PRT
: ORGANISM: Arabidopsis thalia
: FEATURE:
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GENERAL INFORMATION:
APPLICANT: Kwoh, Deborah Y.
APPLICANT: Kwoh, Deborah Y.
APPLICANT: Brostoff, Steven W.
APPLICANT: Carlo, Dennis J.
APPLICANT: Carlo, Dennis J.
APPLICANT: TCS-128, 0 US-1
FILE REFERENCE: TCS-128, 0 US-1
CURRENT APPLICATION NUMBER: US/09/523,033A
CURRENT FILING DATE: 2000-03-10
DESIGN AND TOWNSTORM TOWNSTORM
Query Match
Best Local Similarity
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Best Local Similarity
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LENGTH: 11
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CURRENT APPLICATION NUMBER: US/09/935,625
CURRENT FILING DATE: 2001-08-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: POLYNUCLEOTIDES, POLYPEPTIDES, TITLE OF INVENTION: MODULATING VARIOUS RESPONSES
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SOFTWARE: PatentIn version 3.1
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100.0%; Pred. No.
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Pred. No. 3
                        Score 7;
Pred. No.
                                                                                                                                                                                    IJ
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                        DB 5;
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3.7e-17;
                                                    Length 405;
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RESULT 6
US-10-144-850-423
; Sequence 423, Application US/10144850
; GENERAL INFORMATION:
; APPLICANT: Rosen et al.
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Best Local Similarity
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Best Local Similarity
Matches 6; Conserve
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                                                                                                                                                                                                                                                                   ; ORGANISM: Homo US-10-106-698-4318
                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: PCT/US00/26524
PRIOR FILING DATE: 2000-09-28
PRIOR APPLICATION NUMBER: US 60/157,137
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR APPLICATION NUMBER: US 60/163,280
PRIOR FILING DATE: 1999-11-03
NUMBER OF SEQ ID NOS: 8564
SOFTWARE: PATENTIN Ver. 3.0
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GENERAL INFORMATION:
APPLICANT: Ruben et al.
TITLE OF INVENTION: Colon and Colon Cancer Associated Polynucleotides and Polypept
FILE REFERENCE: PA005p1
FILE REFERENCE: PA005p1
                                                                                                                                                                                                                                                                                                               SEQ ID NO 4318
LENGTH: 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Prior Application removed - See File Wrapper or Palm SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 4676
LENGTH: 42
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CURRENT FILING DATE: 2002-03-26
NUMBER OF SEQ ID NOS: 15197
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TITLE OF INVENTION: Human Secreted Proteins
FILE REPERENCE: PS950
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CURRENT FILING DATE: 2002-03-27
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100.0%; Pred. No.
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APPLICANT: Cao, Yongwei
APPLICANT: Chen, Xianfeng
APPLICANT: Chen, Xianfeng
APPLICANT: Goldman, Barry S.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
CURLO OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10(52052)A
CURRENT APPLICATION NUMBER: US/60/360,039
CURRENT FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 20191
SEQ ID NO 20191
CROSTE: PRT
ORGANISM: NOSTOC punctiforme
US-60-360-039-20191
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US-60-360-039-20191
Convence 20191, A
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CURRENT FILING DATE: 2002-05-15
PRIOR APPLICATION UNMBER: 09/758,443
PRIOR FILING DATE: 2001-01-11
PRIOR PLICATION UNMBER: 60/179,065
PRIOR PLILING DATE: 2000-01-31
PRIOR APPLICATION UNMBER: 60/180,628
PRIOR APPLICATION UNMBER: 60/180,628
PRIOR FILING DATE: 2000-02-04
NUMBER OF SEQ ID NOS: 432
SOFTMARE: Patentin Ver. 2.0
SEQ ID NO 423
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FEATURE:
NAME/KEY: misc_feature
LOCATION: (12)
OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
US-10-144-850-423
                                                                                                                         US-60-360-039-16488; Sequence 16488; Application US/60360039; GENERAL INFORMATION:
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Matches 6
APPLICANT: Cao, Yongwei
APPLICANT: Chen, Xianfeng
APPLICANT: Chen, Xianfeng
APPLICANT: Goldman, Barry S.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
APPLICANT: Slater Steven C.
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hes 6; Conserv
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100.0%; Pr
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100.0%; Pred. No. 1.
tive 0; Mismatches
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Sequence 1333, Application us/vvvvv...

Sequence 1333, Application us/vvvvv...

GENERAL INFORMATION:

APPLICANT: Cao, Yongwei

APPLICANT: Chen, Xianfeng

APPLICANT: Goldman, Barry S.

APPLICANT: Slater, Steven C.

TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES FILE REFERENCE: 38-10(52052)A

CURRENT APPLICATION NUMBER: US/60/360,039

CURRENT FILING DATE: 3002-02-21

MIMHER OF SEQ ID NOS: 47374
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CURRENT APPLICATION UNMBER: US/60/360,039
CURRENT FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 16488
LENGTH: 259
TYPE: PRT
ORGANISM: Bacillus thuringiensis
US-60-360-039-16488
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; SEQ ID NO 17364
; LENGTH: 260
; TYPE: PRT
; ORGANISM: Bacillus halodurans
US-60-360-039-17364
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Best Local Similarity
Thehes 6; Conserve
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                                                  NUMBER OF SEQ ID NOS:
SEQ ID NO 13333
LENGTH: 261
TYPE: PRT
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Best Local (
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APPLICANT: Slater, Steven C.
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION
TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 39-10(52052)A
CURRENT APPLICATION NUMBER: US/60/360,039
CURRENT FILING DATE: 2002-02-21
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APPLICANT: Chen, Xianfeng
APPLICANT: Goldman, Barry
NAME/KEY: unsure
                FEATURE:
                               ORGANISM: Aspergillus nidulans
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: LOCATION: (1)..(261)
: OTHER INFORMATION: unsure at all Xaa locations US-60-560-039-13333
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US-60-360-039-17696
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US-60-360-039-17696
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US-60-360-039-16535
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                                                                                                                                          ; ORGANISM: Bacillus thuringiensis US-60-360-039-16535
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SEQ ID NO.17696
LENGTH: 269
                                                                                                                                                                         TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10(52052)A
CURRENT APPLICATION NUMBER: US/60/360,039
CURRENT FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 16535
LENGTH: 364
TYPE: PRT
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APPLICANT: Cao, Yongwei
APPLICANT: Chen, Xianfi
APPLICANT: Goldman, Ba
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Best Local Similarity
Matches 6; Conserv
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Best Local Similarity
Matches 6; Conserv
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Matches 6; Conserv
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21 FLQSLS 26
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                                                    23.1%; Score 6; DB 7; Le 100.0%; Pred. No. 1.9e+02; Live 0; Mismatches 0;
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Pred. No.
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b. 1.5e+02;
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. 1.5e+02;
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Best Local Similarity
"hes 6; Conserve
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US-09-895-913A-210
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RESULT 15
US-10-145-415-8
; Sequence 8, Application US/10145415
; GENERAL INFORMATION:
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GENERAL INFORMATION:
APPLICANT: Gary L. Breton
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO BACTEROIDES
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.1001-001
CURRENT APPLICATION NUMBER: US/09/540,209B
CURRENT FILING DATE: 2000-04-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Kleanthous, Harold
APPLICANT: Al-Garawi, Amal
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NUMBER OF SEQ ID NOS: 10444
SEQ ID NO 5750
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LENGTH: 370
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Best Local Similarity
Matches 6; Conserv
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TITLE OF INVENTION: Encoding Novel Helicobacter Polypeptides in the Helicobacter
TITLE OF INVENTION: Genome
ETLE REFERENCE: 06132/043002
CURRENT APPLICATION NUMBER: US/09/895,913A
CURRENT FILING DATE: 2001-06-29
PRIOR APPLICATION NUMBER: US 08/881,227
PRIOR APPLICATION NUMBER: US 08/881,227
PRIOR FILING DATE: 1997-06-24
NUMBER OF SEQ ID NOS: 368
NUMBER OF SEQ ID NOS: 368
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TYPE: PRT
ORGANISM: B.fragilis
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                                                                                                                  298 LLVDFL 303
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Tomb, Jean Francois
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o. 2.1e+02;
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RESULT 17
US-10-145-415-20
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                                                       Sequence 20, Application US/10145415 GENERAL INFORMATION:
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SEQ ID NO 12
LENGTH: 430
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APPLICANT: Buckel, Thomas Gunter
APPLICANT: Hammer, Philip Eugene
APPLICANT: Hill, Dwight Steven
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CURRENT FILING DATE: 2002-05-14
PRIOR APPLICATION NUMBER: US 60/291,149
PRIOR FILING DATE: 2001-05-16
NUMBER OF SEQ ID NOS: 105
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APPLICANT: Hammer, Philip Eugen
APPLICANT: Hill, Dwight Steven
APPLICANT: Ligon, James Madison
APPLICANT: Molnar, Istvan
APPLICANT: Molnar, Johannes
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TITLE OF INVENTION: Methods and Compositions for Making Emamectin
EILE REFERENCE: SYN-17 109846.312
CURRENT APPLICATION NUMBER: US/10/145,415
CURRENT FILING DATE: 2002-05-14
PRIOR APPLICATION NUMBER: US 60/291,149
PRIOR FILING DATE: 2001-05-16
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TITLE OF INVENTION: Methods and Compositions for Making Enamectin
FILE REFERENCE: SYN-117 109846.312
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TYPE: PRT
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Hammer, Philip Eugene
Hill, Dwight Steven
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Molnar, Istvan
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Hill, Dwight Steven
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Pachlatko, Johannes Paul
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100.0%; Pro
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Pred. No.
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5. 2.2e+02;
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US-10-106-698-6383
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Best Local Similarity
""+ hes 6; Conserve
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Sequence 6383, Application US/10106698
GENERAL INFORMATION:
APPLICANT: Ruben et al.
TITLE OF INVENTION: Colon and Colon Cancer Associated Polynucleotides and Polypept
FILE REFERENCE: PA00551
CURRENT APPLICATION NUMBER: US/10/106,698
CURRENT FILING DATE: 2002-03-27
PRIOR APPLICATION NUMBER: PCT/US00/26524
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Best Local
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TITLE OF INVENTION: Methods and Compositions for Making
FILE REFERENCE: SYN-117 109846.312
CURRENT APPLICATION NUMBER: US/10/145,415
CURRENT FILING DATE: 2002-05-14
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PRIOR FILING DATE: 2001-05-16
NUMBER OF SEQ ID NOS: 105
SOFTWARE: FBStSEQ for Windows Version 4.0
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PRIOR APPLICATION NUMBER: US 60/291,149
PRIOR FILING DATE: 2001-05-16
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TITLE OF INVENTION: Methods and Compositions for Making Emamectin
FILE REFERENCE: SYN-117 109846.312
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SOFTWARE: FastSEQ for Windows Version 4.0
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CURRENT FILING DATE: 2002-05-14
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TYPE: PRT
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100.0%; Pred. No.
live 0; Mismatcl
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b; Pred. No. 2.2
0; Mismatches
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No. 2.2e+02;
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US-60-360-039-4831; Sequence 4831, Application; GENERAL INFORMATION:
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US-60-360-039-7590
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Best Local Similarity
Matches 6; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 4831
                                                                                                                                                           Sequence 7590, Application US/60360039 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                 APPLICANT: Cao, Yongwei
APPLICANT: Chen, Xianfeng
APPLICANT: Goldman, Barry S.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS
TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Chen, Xianfeng
APPLICANT: Goldman, Barry S.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS
TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
TILE REFERENCE: 38-10(52052)A
CURRENT APPLICATION NUMBER: US/60/360,039
CURRENT FILING DATE: 2002-02-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR FILING DATE: 2000-09-28
PRIOR APPLICATION NUMBER: US 60/157,137
PRIOR FILING DATE: 1999-09-29
PRIOR APPLICATION NUMBER: US 60/163,280
PRIOR FILING DATE: 1999-11-03
NUMBER OF SEQ ID NOS: 8564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Cao, Yongwei
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LOCATION: (2)
OTHER INFORMATION: Xaa equals any of
NAME/KEY: MISC_FEATURE
LOCATION: (144)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 481
TYPE: PRT
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REFERENCE: 38-10(52052)A
                                                                                                                                                                                                                                                                                  38
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Pred. No. 2.3e+02
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APPLICANT: Cao, Yongwei
APPLICANT: Chen, Xianfeng
APPLICANT: Chen, Xianfeng
APPLICANT: Chen, Xianfeng
APPLICANT: Hinkle, Gregory J.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN
TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10(52052)A
CURRENT APPLICATION NUMBER: US/60/360,039
CURRENT FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 8897
LENGTH: 487
LENGTH: 487
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CURRENT FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 7590
LENGTH: 484
TYPE: PRT
ORGANISM: Burkholderia cepacia
US-60-360-039-7590
; ORGANISM: Schizosaccharomyces pombe US-60-360-039-22811
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US-60-360-039-22811
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                              APPLICANT: Goldman, Barry S.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF
TITLE OF INVENTION: PLANTS WITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10(52052)A
CURRENT APPLICATION NUMBER: US/60/360,039
CURRENT FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 22811
LENGTH: 892
TYPE: PRT
                                                                                                                                                                                                                                                                                                      Sequence 22811, Application US/60360039 GENERAL INFORMATION:
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Best Local
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6; Conserv
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100.0%; F
tive 0;
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100.0%; Pred. No.
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No. 2.5e+02;
0;
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Query Match

23.1%;

Score

6;

DB 7;

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WIMBER OF SEO ID NOS: 4096
SOFTWARE: Patentin Ver. 2.1
SEO ID NO 2951
LENGTH: 903
TYPE: PRI
ORGANISM: Homo sapiens
US-10-104-047-2951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 2951, Application US/10104047
GENERAL INFORMATION:
APPLICANT: HELLX RESEARCH INSTITUTE
TITLE OF INVENTION: NOVEL full length cDNA
FILE REFERENCE: H1-A0105
CURRENT APPLICATION NUMBER: US/10/104,047
CURRENT ETLING DATE: 2002-03-25
PRIOR FILING DATE:
PRIOR FILING DATE:
PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                          US-60-360-039-12464

Sequence 12464, Application US/60360039

SEQUENCE INFORMATION:

APPLICANT: Cao, Yongwel

APPLICANT: Chen, Xianfeng

APPLICANT: Coldman, Barry S.

APPLICANT: Goldman, Barry S.

APPLICANT: Hinkle, Gregory J.

APPLICANT: Stater, Steven C.

TITLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF TITLE OF INVENTION: PLANTS WITH INPROVED PROPERTIES

FILE REFERENCE: 38-10(52052)A

CUBRENT APPLICATION NUMBER: US/60/360,039

CUBRENT PILING DATE: 2002-02-21

NUMBER OF SEQ ID NOS: 4/374
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Best Local Similarity
Watches 6; Conserve
                                                                                                      Query Match
Best Local Similarity
Watches 6; Conserve
                                                                                                                                                                                                    FEATURE: UNSUTE

NAME/KEY: UNSUTE

LOCATION: (1)..(911)

OTHER INFORMATION: Unsure at all Xaa locations
US-60-360-039-12464
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US-10-104-047-2951
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RESULT 26
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                                                                                                                                                                                                                                                                                         TYPE: PRT ORGANISM: Aspergillus nidulans
                                                                                                                                                                                                                                                                                                                                    LENGTH: 911
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                                                   400 FLQSLS 405
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                                                                                                                      Conservative
                                                                                                                                     23.1%;
                                                                                                                    Score 6; DB 7; Le
; Pred. No. 4.2e+02;
0; Mismatches 0;
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mismatches 0;
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APPLICANT: Cao, Yongwel APPLICANT: Cao, Yongwel APPLICANT: Cao, Yongwel APPLICANT: Color, Xianfeny APPLICANT: Goldman, Barry S.
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
APPLICANT: Slater, Steven C.
FITTLE OF INVENTION: EXPRESSION OF MICROBIAL PROTEINS IN PLANTS FOR PRODUCTION OF TITLE OF INVENTION: PLANTS MITH IMPROVED PROPERTIES
FILE REFERENCE: 38-10(52052)A
CURRENT APPLICANTON NUMBER: US/60/360,039
CURRENT FILING DATE: 2002-02-21
NUMBER OF SEQ ID NOS: 47374
SEQ ID NO 19485
LENGTH: 1340
TYPE: PFT
ORGANISM: Myxococcus xanthus
US-60-360-039-19485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; LENGTH: 7
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-105-299-3886
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Best Local Similarity
Watches 6; Conserva
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APPLICANT: CTL IMMUNO THERAPIES CORP.
APPLICANT: SIMARD, John, J.L.
APPLICANT: DIAMOND, DAVID, C.
APPLICANT: LIU, LIPING
APPLICANT: XIE, ZhIGONG
TITLE OF INVENTION: EPITOPE SEQUENCES
FILE REFERENCE: CTLIMM. 027A
CURRENT APPLICATION NUMBER: US/10/117,937
CURRENT EFLING DATE: 2002-04-04
PRIOR APPLICATION NUMBER: US 60/282,211
PRIOR FILING DATE: 2001-04-06
                                                                                                                                                                                                                                                                      RESULT 28
US-10-117-937-269
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Best Local Similarity
""+"hes 5; Conserve
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Prior Application removed
SOFTWARE: Patentin Ver. 2.0
SEO ID NO 3886
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GENERAL INFORMATION:
APPLICANT: ROSEn, et. al
TITLE OF INVENTION: Human Secreted Proteins
                                                                                                                                                                                                                             Sequence 269, Application US/10117937 GENERAL INFORMATION:
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2 GFLLL 6
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Conservative 0;
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b. 5.8e+02;
tches 0; Indels
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APPLICANT: LIU, Liping
APPLICANT: XIE, Zhidong
APPLICANT: XIE, Zhidong
APPLICANT: XIE, Zhidong
TITLE OF INVENTION: ENTONE SEQUENCES
FILE REFERENCE: CTLIMM.027A
CURRENT EFLICATION NUMBER: US/10/117,937
CURRENT FILING DATE: 2002-04-04
PRIOR APPLICATION NUMBER: US 60/282,211
PRIOR FILING DATE: 2001-11-07
PRIOR FILING DATE: 2001-11-07
PRIOR APPLICATION NUMBER: US 60/337,017
PRIOR APPLICATION NUMBER: US 60/337,017
PRIOR APPLICATION NUMBER: US 60/363,210
PRIOR FILING DATE: 2002-03-07
NUMBER OF SEQ ID NOS: 602
SOFTWARE: FastSEQ for Windows Version 4.0
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US-10-117-937-270
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US-10-014-340-19
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GENERAL INFORMATION:
APPLICANT: Herath, et al
TITLE OF INVENTION: Nucleic Acid Molecules, Polypeptides and Uses Therefor, Including
TITLE OF INVENTION: Diagnosis and Treatment of Alzheimer's Disease
FILE REFERENCE: 9195-078
CURRENT APPLICATION NUMBER: US/10/014,340
CURRENT FILING DATE: 2001-12-10
NUMBER OF SEQ ID NOS: 823
SODTWARE: Patentin version 3.0
SEQ ID. NO 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR FILING DATE: 2002-03-07
NUMBER OF SEQ ID NOS: 602
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 269
LENGTH: 9
TYPE- DEF
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Best Local Similarity
Matches 5; Conserv
SEQ ID NO 270
LENGTH; 10
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Best Local Similarity 100.0%;
Matches 5; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: US 60/337,017
PRIOR FILING DATE: 2001-11-07
PRIOR APPLICATION NUMBER: US 60/363,210
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5 GFLLL 9
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; Pred. No. 2.4e+05;
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APPLICANT: Human Genome Sciences, Inc.
TITLE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: PS95BCT
CURRENT APPLICATION NUMBER: PCT/US02/09135
CURRENT FILING DATE: 2002-03-26
PRIOR APPLICATION NUMBER: US 60/278,650
PRIOR FILING DATE: 2001-03-27
PRIOR PLICATION NUMBER: US 09/950,082
PRIOR APPLICATION NUMBER: US 09/950,082
PRIOR APPLICATION NUMBER: US 09/950,083
PRIOR APPLICATION NUMBER: US 09/950,083
PRIOR FILING DATE: 2001-09-12
NUMBER OF SEQ ID NOS: 491
SOFTWARE: PATENTIN DATE: 2001-09-12
NUMBER OF SEQ ID NOS: 491
SOFTWARE: PATENTIN VEF. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TYPE: PRT; ORGANISM: Homo sapiens US-10-117-937-270
; ORGANISM: Homo sapiens PCT-US02-09105-221
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GENERAL INFORMATION:
APPLICANT: Human Genome Sciences, Inc.
TITLE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: PS951PCT
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                                                                              SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 221
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Best Local Similarity
Matches 5; Conserva
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Best Local :
                                                                                                                    PRIOR APPLICATION NUMBER: US 60/278,650
PRIOR TILING DATE: 2001-03-27
PRIOR APPLICATION NUMBER: US 09/950,082
PRIOR FILING DATE: 2001-09-12
PRIOR APPLICATION NUMBER: US 09/950,083
PRIOR PILING DATE: 2001-09-12
NUMBER OF SEQ ID NOS: 779
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CURRENT FILING DATE: 2002-03-26
                                                         LENGTH: 13
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Best Local Similarity

19.2%;

Score 5; DB 1; Pred. No. le+02;

Length 13;

Query Match

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PRIOR APPLICATION NUMBER: 2007-03-26

PRIOR APPLICATION NUMBER: US 60/278,650

PRIOR FILING DATE: 2001-03-27

PRIOR APPLICATION NUMBER: US 09/950,082

PRIOR FILING DATE: 2001-09-12

ROUMBER OF SEQ ID NOS: 994

SEQ ID NO 299

SEQ ID NO 299

LENGTH: 13

TYPE: PRT

ORGANISTIN 13
                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: PCT/US02/09922
CURRENT FILING DATE: 2002-03-26
PRIOR APPLICATION NUMBER: US 60/278,650
PRIOR FILING DATE: 2001-03-27
PRIOR APPLICATION NUMBER: US 09/950,082
PRIOR FILING DATE: 2001-09-12
PRIOR APPLICATION NUMBER: US 09/950,083
PRIOR FILING DATE: 2001-09-12
PRIOR APPLICATION NUMBER: US 09/950,083
PRIOR FILING DATE: 2001-09-12
PRIOR APPLICATION NUMBER: US 09/950,083
PRIOR FILING DATE: 2001-09-12
SOFTMARE: Patentin Ver. 2.0
SEQ ID NO 285
LENGTH: 13
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PCT-USO2-09257-299
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; Sequence 285, Application PC/TUS0209922
; GENERAL INFORMATION:
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GENERAL INFORMATION:
APPLICANT: Human Genome Sciences, Inc.
TITLE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: PS957PCT
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Best Local Similarity
Matches 5; Conserv
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Best Local
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CURRENT FILING DATE: 2002-03-26
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TITLE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: PS955PCT
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nes 5; Conserv
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ilarity 100.0%; Pred. No. 1e+0
Conservative 0; Mismatches
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has 0; Indels
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GENERAL INFORMATION:
APPLICANT: Rosen, et. al
ITILE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: PS950

CURRENT APPLICATION UNMAER: US/10/105,299

CURRENT FILING DATE: 2002-03-26

NUMBER OF SEC ID NOS: 15197

Prior Application removed - See File Wrapper or Palm
SEC ID NO 3814

LENGTH: 13

TYPE: PAT
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Sequence 5635, Application US/10105299
GENERAL INFORMATION:
APPLICANT: Rosen, et. al
TITLE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: PS950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; ORGANISM: Homo sapiens
US-10-105-299-3814
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US-10-105-299-3814
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US-10-143-775-636
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Best Local Similarity
Watches 5; Conserve
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GENERAL INFORMATION:
APPLICANY: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PC021C1N
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CURRENT FILING DATE: 2002-03-26
NUMBER OF SEQ ID NOS: 15197
Prior Application removed - See File Wrapper or Palm SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 5635
LENGTH: 22
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Best Local Similarity
Matches 5; Conserva
                                                    SOFTWARE: PatentID Ver. 2.0
SEQ ID NO 636
LENGTH: 24
                                                                                                               CURRENT APPLICATION NUMBER: US/10/143,775
CURRENT FILING DATE: 2002-05-14
Prior Application removed - See File Wrapper or Palm
NUMBER OF SEO ID NOS: 1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
FEATURE:
                      ORGANISM: Homo sapiens
                                        TYPE: PRT
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5 GFLLL 9
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RESULT 38
US-10-105-299-4607
; Sequence 4607, Application US/10105299
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Best Local Similarity
Watches 5; Conserv.
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US-10-105-299-5561
US-10-106-698-5700
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CURRENT FILING DATE: 2002-03-26
NUMBER OF SEQ ID NOS: 15197
Prior Application removed - See File Wrapper or Palm SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 5561
LENGTH: 34
TYPE: PRT
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Best Local Similarity 100.0%;
Matches 5; Conservative (
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CURRENT FILING DATE: 2002-03-26
NUMBER OF SEQ ID NOS: 15197
Prior Application removed - See File Wrapper or Palm SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 4607
LENGTH: 28
TYPE: PRT
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APPLICANT: ROSEN, et. al
TITLE OF INVENTION: Huma
FILE REFERENCE: PS950
                                                                                                                              Query Match

Best Local Similarity

Matches 5; Conserv
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TITLE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: PS950
                                                                17 GFLLL
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ilarity 100.0%;
Conservative
                                                                                                                              19.2%; So ilarity 100.0%; I Conservative 0;
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Query Match
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Watches 5; Conserva
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US-10-106-698-5700
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                                                                                                                                                                                                                                                                                                       RESULT 42
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PRIOR APPLICATION UNMBER: US 60/163,280
PRIOR FILING DATE: 1999-11-03
NUMBER: OF SEQ ID NOS: 8564
SOUTWARE: Patentin Ver. 3.0
SEQ ID NO 5700
LENGTH: 35
                                                                                                              Sequence 216, Application US/10143922
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins,
TITLE REFERENCE: PCOZ2CIN
CURRENT APPLICATION UNMEER: US/10/143,922
CURRENT FILING DATE: 2002-05-14
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Best Local S
Matches 5
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GENERAL INFORMATION:
APPLICANT: Rosen, et. al
TITLE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: PS950
Prior application removed - See File Wrapper
NUMBER OF SEQ ID NOS: 232
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 216
LENGTH: 41
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CURRENT FILING DATE: 2002-03-26
NUMBER OF SEQ ID NOS: 15197
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TYPE: PRT
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CURRENT APPLICATION NUMBER: US/10/137,337
CURRENT FILING DATE: 2002-05-03
PRIOR APPLICATION NUMBER: 09/758,447
PRIOR FILLING DATE: 2001-01-11
PRIOR APPLICATION NUMBER: 60/179,065
PRIOR FILING DATE: 2000-01-31
PRIOR APPLICATION NUMBER: 60/180,628
PRIOR FILING DATE: 2000-02-04
NUMBER: OFFERARE: Patentin Ver. 2.0
SEQ ID NO 750
SEQ ID NO 750
LENGTH: 44
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Best Local Similarity
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US-10-137-337-750
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PCT-US02-01109-100
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PRIOR FILING DATE: 2001-01-18
NUMBER OF SEQ ID NOS: 206
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 100
LENGTH: 44
TYPE: PRT
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GENERAL INFORMATION:
APPLICANT: Human Genome Sciences, Inc.
TITLE OF INVENTION: 50 Human Secreted Proteins
FILE REFERENCE: PZ016PCT2
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TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PM028CIN
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CURRENT FILING DATE: 2002-01-17
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FEATURE:
  NAME/KEY: misc_feature
LOCATION: (16)
OTHER_INFORMATION: Xaa equals any of the naturally occurring L-amino acids
                                                                                    TYPE: PRT
ORGANISM: Homo sapiens
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LOCATION: (13)
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FEATURE:
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Local Similarity 100.0%; F
hes 5; Conservative 0;
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; Prior Application removed - Si
SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 5161
; LENGTH: 46
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-105-299-5161
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Best Local Similarity
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US-10-105-299-5161
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Best Local Similarity
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GENERAL INFORMATION:
APPLICANT: Rosen, et. al
TITLE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: PS950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/10/105,299
CURRENT FILING DATE: 2002-03-26
NUMBER OF SEO ID NOS: 15197
Prior Application removed - See File Wrapper or SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 5139
LENGTH: 46
TYPE: PRT
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Best Local Similarity
Matches 5; Conserv
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CURRENT FILING DATE: 2002-03-26
NUMBER OF SEQ ID NOS: 15197
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                            15 EHLLV 19
34 EHLLV 38
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100.0%; Pred. No.
Live 0; Mismatc
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tive 0; Mismatches
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o. 3e+02;
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RESULT 47 PCT-US02-09921-928

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                                              Sequence 5308, Application US/10105299
GENERAL INFORMATION:
APPLICANT: ROSED, et. al
TITLE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: P.9590
CURRENT APPLICATION UMBER: US/10/105,299
CURRENT FILING DATE: 2002-03-26
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Best Local S
Matches 5
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CURRENT FILING DATE: 2002-03-27

PRIOR APPLICATION NUMBER: 60/280,067; 60/280,068; 60/291,280; 60/291,849; 60/291,829; 60/299,428; 60/280,001; 60/299,776

60/291,829; 60/299,428; 60/300,001; 60/299,776

PRIOR FILING DATE: 2001-03-29; 2001-03-29; 2001-05-16; 2001-05-17; 2001-05-17; 2001-06-19; 2001-06-20; 2001-06-20

NUMBER OF SEO ID NOS: 1146

SOFTWARE: PERL Program

SEO ID NO 928
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APPLICANT:
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APPLICANT: DARFO, Abel
APPLICANT: JONES, Anissa L.
APPLICANT: TRAN, Alanna-Phung B
APPLICANT: DAHL, Christopher R.
APPLICANT: GIETZEN, Darryl
Prior Application removed SOFTWARE: Patentin Ver. 2
                                 NUMBER OF SEQ ID NOS: 15197
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NAME/KEY: misc_feature
OTHER INFORMATION: Incyte ID
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HILLMAN, Jennifer L.
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APPLICANT: ROSEN et al.
TITLE OF INVENTION: Nucleic Acids, Proteins,
FILE REFERENCE: PC017C1N
                                                                                                                                                                                                                                                                                                            Sequence 6077, Application US/10105299 GENERAL INFORMATION:
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CURRENT FILING DATE: 2002-03-26
NUMBER OF SEQ ID NOS: 15197
                                                                                                                                                                                                                                                            APPLICANT: Rosen, et. al
TITLE OF INVENTION: Human Secreted Proteins
FILE REFERENCE: PS950
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NUMBER OF SEQ ID NOS: 930
SOFTWARE: Patentin Ver. 2.0
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Sequence 4, Applisequence 2, Applisequence 17, Applisequence 18, Applisequence 17, Applisequence 17, Applisequence 17, Applisequence 79, Applisequence 79, Applisequence 11, Applisequence 11, Applisequence 10, Applisequence 10, Applisequence 10, Applisequence 10, Applisequence 10, Applisequence 59, Applisequence 59, Applisequence 5, Applisequence 1184, Applisequence 1
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4, Appli
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equence 1	uence 1, Appl	equence 15, App	equence 2, Appr	cancer rie, wh	equence 110 An	equence 49. App	tent No. 531072	equence 12, App	quence 11, App	equence 10, App	equence 1, Appl	equence 2, Appl	equence 2, Appl	equence 2, Appl	equence 2, App	equence 2, Appl	equence 5, Appl	equence 397, Ap	equence 6, Appl	equence 28, App	equence 29, App	uence 65,	equence 64, App	equence 227, Ap	equence 10,	equence 10, App	2	equence 3, Appl	w	equence 2, Appl	equence 17, App	equence 24, App	equence 32. App	equence 1	nence 11, App	equence I	equence 1183, A	equence 21,	equence 17, App	equence 21,	ence 17, App	tent No. 516993	uence 9, Appl	equence 18, A	uence 593, Ap	quence 66, Ap	e 66, A	

## ALIGNMENTS

US-08-879-565-14

US-08-879-565-14

Sequence 14, Application US/08879565A

Patent No. 6093573

GENERAL INFORMATION:
APPLICANT: Beamer, Lesa J.
APPLICANT: Carroll, Stephen F.
APPLICANT: Elsenberg, David

TITLE OF INVENTION: THREE-DIMENSIONAL STRUCTURE OF
TITLE OF INVENTION: BACTERICIDAL/PERMEABILITY-INCREASING PROTEIN

FILE REPERENCE: 1103/11034US01

CURRENT APPLICATION UNMBER: US/08/879,565A

CURRENT APPLICATION UNMBER: US/08/879,565A

CURRENT FILING DATE: 1997-06-20

NUMBER OF SEQ ID NOS: 14

SEQ ID NO 14

LENGTH: 470

TYPE: PRT
ORGANISM: Human
FEATURE:

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: OTHER INFORMATION: cholesteryl ester transfer protein (CETP) (Figure : OTHER INFORMATION: 5) US-08-879-565-14
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US-09-171-969-4
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Best Local Similarity

Matches 26; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/09/171,969
FILING DATE: 01 May 1997 (01.05.97)
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/640,713
FILING DATE: 01 May 1996 (01.05.96)
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/802.967
APPLICATION DATA:
APPLICATION UMBER: 08/802.967
FILING DATE: 21 February 1997 (21.02.97)
ATTORNEY/AGENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30,237
REGISTRATION NUMBER: 30,237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Thomas, Lawrence J.
TITLE OF INVENTION: PLASMID-BASED VACCINE FOR TREATING ATHEROSCLEROSIS
                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: 17
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 476 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WordPerfect 6.1
CURRENT APPLICATION DATA:
                                                                                           PUBLICATION INFORMATION:
AUTHORS: Drayna, Dennis, et al.
TITLE: Cloning and sequencing of human
TITLE: cholesteryl ester transfer CDNA
JOURNAL: Mature
VOLUME: 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      445 RDGFLLLQMDFGFPEHLLVDFLQSLS 470
                                                                                                                                                                                                                                                                          EATURE:
                                                                                                                                                                                                                                                                                            NTI-SENSE:
                                                                                                                                                                                                                NAME/KEY:
NAME/KEY:
LOCATION:
             PAGES: 632 - 634
DATE: 18-JUN-1987
RELEVANT RESIDUES IN
                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acids
TYPE: amino acid
TOPOLOGY.
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STATE: Massa
                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
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                                                                           ISSUE:
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75 State Street, Suite 2300
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                                                                                                                                                                                                                                     Amino acid sequence of mature human CETP
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                 SEQ ID
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                     NO:
                   4: FROM 1 TO
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RESULT 4
US-09-171-969-2
; Sequence 2, Application US/09171969
; Patent No. 6284533
; PATENT NO. 6284533
; GENERAL INFORMATION:
; APPLICANT: Thomas, Lawrence J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-171-969-7
; Sequence 7, Application US/09171969
; Patent No. 6284533
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US-09-171-969-7
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Best Local Similarity
Matches 26; Conserv
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Best Local Similarity
Matches 11; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION 1514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/640,713
APPLICATION NUMBER: 08/601.05.96)
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/802,967
FILING DATE: 21 February 1997 (21.02.97)
ATTORNEY_AGENT INFORMATION:
NAME: Leon R. Yankwich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
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MEDING TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPERATING SYSTEM: PC-DOS/MS-DOS
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                  FEATURE: amino acid sequence of peptide encoded FEATURE: by bases 10 to 159 of SEQ ID NO:5
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                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE:
HYPOTHETICAL:
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CITY: Boston
STATE: Massac
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                                                                                                                                                                  40 HLEVDFLQSLS 50
                                                                                                                                                                                                    16 HLLVDFLQSLS 26
                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE:
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                                                                                                                                                                                                                                          Conservative
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01 May 1997 (01.05.97)
NN: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                        peptide
                                                                                                                                                                                                                                        42.3%; Score 11; DB 4; I
100.0%; Pred. No. 0.00026;
1tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PLASMID-BASED VACCINE FOR TREATING ATHEROSCLEROSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30,237
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                                                                                                                                                                                                                                                                            Length 50;
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RESULT 5
US-08-403-852D-17
Sequence 17, Application US/08403852D
Patent No. 5891695
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                GENERAL INFORMATION:
APPLICANT: Blanc,
APPLICANT: Blanche
APPLICANT: Crouzet
                                                                                                                                                                                                                Query Match
Best Local Similarity 100.
11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 08/802,967
FILING DATE: 21 February 1997 (21.02.97)
ATTORNEY_NAENT INFORMATION:
NAME: Leon R. Yankwich
REGISTRATION NUMBER: 30.237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/640,713
FILING DATE: 01 May 1996 (01.05.96)
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: WordPerfect
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Banner & Witcoff, Ltd.
                                                                                                                                                                        486 HLLVDFLQSLS 496
                                                                                                                                                                                                                                                                                                                                      PAGES: 1643
DATE: 1988
                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL: J.
VOLUME: 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/09/171,969
FILING DATE: 01 May 1997 (01.05.97)
CLASSIFICATION: 514
                                                                                                                                                                                        16 HLLVDFLQSLS 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: Amino acid sequence for mature NAME/KEY: rabbit CETP protein.
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                                                                                         ISSUE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OF SEQUENCES:
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Cloning and mRNA tissue
distribution of rabbit
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                                                                                                                                                                                                                                                                                                                                                                                                                    protein
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                Blanc, Veronique
Blanche, Francis
Crouzet, Joel
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   Jacques, Nathalie
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Best Local Similarity
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                                                                                                                                                                                                            Sequence 18,
Patent No. 6
                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (202) 408-4400
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                APPLICANT:
APPLICANT:
APPLICANT:
             TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 25-SEP-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 92/11441
FILING DATE: 25-SEP-1992
ATTORNEY/AGENT INFORMATION:
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APPLICANT:
APPLICANT:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/F
FILING DATE: 25-SEP-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: B10
TITLE OF INVENTION: CO-
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
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                                                                                         APPLICANT:
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MEDIUM TYPE: Floppy disk
                                                           APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
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CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Meyers, Kenneth
REGISTRATION NUMBER: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: USA
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SEQUENCES:
                                                                     Thibaut, Denis
Zagorec, Monique
Debussche, Laurent
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                                                                                                                                 Jacques, Nathalie
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Thibaut, Denis
Zagorec, Monique
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COMPOTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/403,852D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: De Crecy-Lagard, Valerie
TITLE OF INVENTION: Polypeptides involved in The
TITLE OF INVENTION: Polypeptides of Streptogramins, Nucleotide Sequences
TITLE OF INVENTION: Coding For These Polypeptides and Their Use
De Crecy-Lagard, Valerie
VENTION: Polypeptides Involved In The
VENTION: Blosynthesis Of Streptogramins, Nucleotide:
VENTION: Coding For These Polypeptides And Their Use
EQUENCES: 45

    Finnegan, Henderson, Farabow, Garrett & Dunner
1300 I Street, N.W., Suite 700

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                                                          Nucleotide Sequences
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CORRESPONDENCE ADDRESS:
ADDRESSEE: Finnegan, Henderson, Farabow, Garrett & Dunner STREET: 1300 I Street, N.W., Suite 700

STREET: 1300 I St

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US-09-231-818-17
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Best Local Similarity
7; Conserve
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us-08-510-646B-18
                                                                                                                                                                                                                                                                                                                        Patent No. 6171846
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                             Sequence 17,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (202) 408-441 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOGTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/510,646B
FILING DATE: 03-AGG-1995
                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 422 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Meyers, Kenneth J.
REGISTRATION NUMBER: 25,146
REFERENCE/DOCKET NUMBER: 03806.0054-01000
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 408-4000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR 93/00923
FILING DATE: 25-SEP-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 92/11441
APPLICATION NUMBER: FR 92/11441
FILING DATE: 25-SEP-1992
FILING DATE: 15-SEP-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 10-MAY-1995
                                                                    NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                     APPLICANT: De Crecy-Lagard, Valerie
TITLE OF INVENTION: Polypeptides Involved In The
TITLE OF INVENTION: Blosynthesis Of Streptogramins, Nucleotide Sequences
TITLE OF INVENTION: Coding For These Polypeptides And Their Use
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| 143 FGFPEHL 149
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                                 STREET:
STATE:
                                                    ADDRESSEE:
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20005-3315
                 Washington
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D.C
                                 E: Finnegan, Henderson, Farabow, Garrett & Dunner
1300 I Street, N.W., Suite 700
                                                                                                                                                                                                                                                  Jacques, Nathalie
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Zagorec, Monique
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Crouzet, Joel
                                                                                                                                                                                 Debussche, Laurent
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches
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o. 13;
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US-09-339-913B-79; Sequence 79, Application US/09339913B; Patent No. 6303344
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Best Local Similarity
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TOPOLOGY:
US-09-231-818-17
US-09-339-913B-79
                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Patten, Phillip
APPLICANT: Stemmer, Willer
                                                                               SOFTWARE: POSEQ ID NO 79
                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/339,913B CURRENT FILING DATE: 1999-06-24 PRIOR APPLICATION NUMBER: 08/769,062 PRIOR FILING DATE: 1996-12-18 PRIOR PELICATION NUMBER: 08/196,431 PRIOR PELICATION NUMBER: 08/196,431 PRIOR FILING DATE: 1994-02-17 PRIOR APPLICATION NUMBER: 08/425,584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PILING DATE: 25-SEP-1993
PRIOR APPLICATION DATA:
PRIOR APPLICATION UNMBER: FR 92/11441
PILING DATE: 25-SEP-1992
ATTORNEY AGENT INFORMATION:
NAME: Meyers, Kenneth J.
REGISTRATION NUMBER: 25,146
                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Stemmer, Willem P.C. TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR POLYPEPTIDE ENGINEERING FILE REFERENCE: 02-020503US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (202) 408-44
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                   PRIOR FILING DATE: 1995-04-18
PRIOR APPLICATION NUMBER: 08/537,874
                                                                                                    NUMBER OF SEQ ID NOS: 101
SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                 PRIOR FILING DATE: 1995-10-30
           TYPE: PRT ORGANISM: human alpha interferon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FR PC COMPUTER: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                            LENGTH: 166
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PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 422 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION: TELEPHONE: (202) 408-4000
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APPLICATION NUMBER: PCT/FR 93/00923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 20005-3315
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/09/231,818
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Query Match Best Local Similarity

23.1%; 100.0%;

Score 6; Pred. No.

DB 4;

Length 166;

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GENERAL INFORMATION:

RAPPLICANT: PAtten, Philip
APPLICANT: Stemmer, Willem P.C.
APPLICANT: Stemmer, Willem P.C.
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR POLYPEPTIDE ENGINEERING
FILE REFERENCE: 02-02504US
CURRENT APPLICATION NUMBER: US/09/339,904A
CURRENT FILING DATE: 199-06-24
PRIOR REPLICATION NUMBER: 08/69,062
PRIOR FILING DATE: 1996-12-18
PRIOR FILING DATE: 1996-12-18
PRIOR APPLICATION NUMBER: 08/198,431
PRIOR APPLICATION NUMBER: 08/25,684
PRIOR APPLICATION NUMBER: 08/425,684
PRIOR APPLICATION NUMBER: 08/37,874
PRIOR FILING DATE: 1995-04-19
PRIOR APPLICATION NUMBER: 08/537,874
PRIOR FILING DATE: 1995-10-30
NUMBER: OF SED ID NOS: 101
CONTRADE: DATE: 1995-10-30
                                                                                                                                                                     GENERAL INFORMATION:

APPLICANT: Patten, Philip

APPLICANT: Stemmer, Willem P.C.

APPLICANT: Stemmer, Willem P.C.

TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR POLYPEPTIDE ENGINEERING

FILE REFERENCE: 02-020500US

CURRENT APPLICATION NUMBER: US/08/769,062B

CURRENT FILING DATE: 1996-12-18

PRIOR APPLICATION NUMBER: 08/198,431

PRIOR FILING DATE: 1994-02-17

PRIOR FILING DATE: 1994-02-17

PRIOR FILING DATE: 1995-04-18

PRIOR APPLICATION NUMBER: 08/537,874

PRIOR APPLICATION NUMBER: 08/537,874

PRIOR RELING DATE: 1995-10-30

NUMBER OF SEQ ID NO.9;

SEQ ID NO.79

LENGTH: 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: PRT; ORGANISM: human alpha interferon US-09-339-904A-79
                                                                                                         ; TYPE: PRT
; ORGANISM: human alpha interferon
US-08-769-0628-79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 10
US-08-769-0628-79
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Best Local S
Matches 6
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SEQ ID NO 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 79, Appl
Patent No. 63197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 79, Application US/08769052B Patent No. 6335160
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Query Match 23.1%; Score 6; DB 4; Best Local Similarity 100.0%; Pred. No. 49; Matches 6; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         y Match 23.1%; Score 6; DB 4;
Local Similarity 100.0%; Pred. No. 49;
hes 6; Conservative 0; Mismatches
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US-08-026-758-11
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CURRENT FILING DATE: 1999-06-24
PRIOR APPLICATION NUMBER: 08/769,062
PRIOR FILING DATE: 1996-12-18
PRIOR APPLICATION NUMBER: 08/198,431
PRIOR FILING DATE: 1994-02-17
PRIOR APPLICATION NUMBER: 08/425,684
PRIOR FILING DATE: 1995-04-18
PRIOR APPLICATION NUMBER: 08/537,874
PRIOR FILING DATE: 1995-10-30
NUMBER OF SEQ ID NOS: 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: PATTER, Phillip
APPLICANT: Stemmer, Willem P.C.
APPLICANT: Stemmer, Willem P.C.
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR POLYPEPTIDE ENGINEERING
FILE REFERENCE: 02-020502US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 11, Application US/08026758 Patent No. 5780021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 79, Application US/09344002B Patent No. 6355484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: SOBEL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                 ZIP: 2202

ZIP: 2202

COMPUTER READABLE FORM:

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PATCHTIN Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/026,758

EILING DATE: 1930305
                                                                                                                                                                                                                                                                                                   ADDACES 1755 C. STREET: 1755 C. CITY: Arlington STATE: Virginia COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: SOBEL, DOUGLAS O.

TITLE OF INVENTION: A METHOD FOR TREATING AUTOIMMUNE
TITLE OF INVENTION: DISEASES USING ALPHA-INTERFERON AND/OR BETA-INTERFERON
                      CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Oblon, NO. 5780021man F.
REGISTRATION NUMBER: 24,618
                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS
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  REFERENCE/DOCKET NUMBER:
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100.0%; Pred. No.
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  1126-096-0
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RESULT 13
US-08-026-758-20
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; LOCATION: 24..189
; OTHER INFORMATION: /note- "IFN-alpha-4b"
US-08-026-758-11
; NAME/KEY: Protein
; LOCATION: 24..189
; OTHER INFORMATION:
US-08-026-758-20
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TELEX: 24885 OPAT UR
INPORMATION FOR SED ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 189 amino acids
TYPE: amino acid
TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 23.1
Best Local Similarity 100
Matches 6; Conservative
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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTMARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/026,758

FILING DATE: 1939305

CLASSIFICATION: 424

CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 20, Application US/08026758 Patent No. 5780021 GENERRAL INFORMATION: APPLICANT: SOBEL, DOUGLAS O.
                                                                                                                                                                                                TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 413-3000
TELEPAX: (703) 413-2200
TELEX: 24885 OPAT UR
TELEX: CALABSE OPAT UR
INFORMATION FOR SEQ ID NO: 20:
                                                                                                    Type: amino acids
Type: amino acid
TopoLogy: unbr-
(OLECHIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: A METHOD FOR TREATING AUTOIMMUNE TITLE OF INVENTION: DISEASES USING ALPHA-INTERFERON AND/OR BETA-INTERFERON NUMBER OF SEQUENCES: 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: protein FEATURE:
                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 189 amino acid
                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5780021man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 1126-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
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                                                                                   FEATURE:
                                                                                                  MOLECULE TYPE: protein
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CITY: Arlington
STATE: Virginia
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MATER & NEUSTADT
ADDRESSEE: P.C.
STREET: 1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       U.S.A.
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100.0%;
                      /note= "IFN-alpha-76"
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GENERAL INFORMATION:
APPLICANT: GOMOWSKI, Paul
APPLICANT: GOMOWSKI, Paul
APPLICANT: WOOD, WILLIAM I.
APPLICANT: WOOD, WILLIAM I.
APPLICANT: WOOD, WILLIAM I.
APPLICANT: WOOD, WILLIAM I.
APPLICANT: WOOD, DOTE: 17PE I INTERFERONS
FILE REFERENCE: 11669.50US05
CURRENT APPLICATION NUMBER: US/09/206,935
CURRENT FILING DATE: 1998-12-07
EARLIER APPLICATION NUMBER: 60/084,045
EARLIER APPLICATION NUMBER: 50/084,045
EARLIER FILING DATE: 1998-05-04
NUMBER OF SEQ ID NOS: 24
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 10
                                                                                                                                                                                                                                               APPLICANT: Chen, Jian
APPLICANT: Chen, Jian
APPLICANT: Wood, William I.
TITLE OF INVENTION: NO. 6300475el Inteferon
FILE REFERENCE: P1224R1
CURRENT APPLICATION NUMBER: US/09/206,936A
CURRENT FILING DATE: 1998-12-07
EARLIER APPLICATION NUMBER: US 60/067,897
EARLIER FILING DATE: 1998-12-08
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Best Local Similarity
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US-09-206-936-10
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SEQ ID NO 10
LENGTH: 189
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Best Local Similarity 100.
Matches 6; Conservative
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                                                                Query Match
Best Local Similarity
Matches 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 10, Application US/09206936A
Patent No. 6300475
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TYPE: PRT
                                                                                                                                                                                          TYPE: PRT
58 DFGFPE 63
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                                                                    Conservative
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                                                                23.1%; Score 6; I
100.0%; Pred. No.
tive 0; Mismatch
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100.0%; Pred. No. 55;
tive 0; Mismatches
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                                                                    Mismatches
                                                                                     DB 4;
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o. 55;
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                                                                    Indels
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RESULT

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Query Match
Best Local Similarity
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; TOPOLOGY: 1; MOLECULE TYPE: US-08-928-692-59
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;Patent No. 5463025
                                                      MEDIUM TYPE: LINGUESE COMPUTER: IBM COMPARTIALE COMPARTING SYSTEM: DOS SOFTMARE: EASTSEG FOR WINDOWS VETSION 2.0 CURRENT APPLICATION NUMBER: US/08/928,692 FILING DATE: 12-SEPT-1997 CLASSIFICATION: 435
APTORNEY/AGENT INFORMATION: 435
APTORNEY/AGENT INFORMATION: NAME: LIMBER: 33,728
REFERENCE/DOCKET NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 4944.200-US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-667-0123
INFORMATION FOR SEQ ID NO: 59:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
LENGTH: 911 amino acids
TYPE: amino acid
CTDANNERNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ACTIVITY
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; TITLE OF INVENTION: PROTEIN HAVING HUMAN PLASMIN INHIBITING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO:1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 59, Application US/08928692 Patent No. 5958727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/
FILING DATE: 24-JAN-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 10174
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Lamsa, Michael
APPLICANT: Hansen, Kim
TITLE OF INVENTION: Methods for Modifying the Production of
TITLE OF INVENTION: a Polypeptide
NUMBER OF SEQUENCES: 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS
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428 DFLQSL 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: New York
STATE: NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20 DFLQSL 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 60,691
FILING DATE: 13-MAY-1993
APPLICATION NUMBER: 419,913
FILING DATE: 05-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E: No. 5958727o No. 5958727disk of No. 5958727th America,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23.1%; Score 6; DB 6; ilarity 100.0%; Pred. No. 1.3e Conservative 0; Mismatches
                   No. 5958727e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Deborah S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/08/185,162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .3e+02;
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GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Schupp, Thomas
APPLICANT: Ligon, James
APPLICANT: Moinar, Istvan
APPLICANT: Olivar, Istvan
APPLICANT: Cyr, Devon
APPLICANT: Gerlach, Joern
INFORMATION: GENES FOR THE BIOSYNTHESIS OF EPOTHILONES
FILE REFERENCE: 4-30582A
CURRENT APPLICATION NUMBER: US/09/335,409
CURRENT FILING DATE: 1999-06-17
NUMBER OF SEQ ID NOS: 30
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 5
LENGTH: 7257
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Best Local Similarity
""+"ches 6; Conserve
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; TYPE: PRT; ORGANISM: Sorangium cellulosum US-09-335-409-5
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APPLICANT: Bristol-Myers Squibb, Co.
APPLICANT: Breyer, Stefan
APPLICANT: Bloecker, Helmut
APPLICANT: Bloecker, Helmut
APPLICANT: Clino, Paul M
APPLICANT: Coldberg, Steven L
APPLICANT: Goldberg, Steven L
APPLICANT: Goldberg, Steven L
APPLICANT: Hofle, Gerhard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Mueller, Joachim
APPLICANT: Reichenbach, Hans
TITLE OF INVENTION: DA sequences for enzymatic synthesis of polyketide or
TITLE OF INVENTION: NA sequences
FILE REFERENCE: PCT/US 99/23535
CURRENT APPLICATION NUMBER: US/09/413,814
CURRENT APPLICATION NUMBER: DE 198 46 493.2
CURRENT FILING DATE: 1999-10-07
EARLIER APPLICATION NUMBER: DE 198 46 493.2
EARLIER APPLICATION NUMBER: DE 198 46 493.2
EARLIER STIING DATE: 1998-10-09
NUMBER OF SEQ ID NOS: 107
SOFTWARE: PATENTIN DE 1.2
SEQ ID NO 42
LENGTH: 2539
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Matches 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
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6225064
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100.0%; Pred. No. 6e+02;
tive 0; Mismatches
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100.0%; Pred. No. 2.4e+02;
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APPLICANT: Schup, Thomas
APPLICANT: Ligon, James
APPLICANT: Molnar, Istvan
APPLICANT: Zirkle, Ross
APPLICANT: Zirkle, Ross
APPLICANT: Zirkle, Ross
APPLICANT: Cyr, Devon
APPLICANT: Cyr, Devon
APPLICANT: Goerlach, Joern
FITLE REFERENCE: 4-30582A
CURRENT APPLICATION NUMBER: US/09/567,969
CURRENT FILING DATE: 2000-05-10
PRIOR APPLICATION NUMBER: 09/335,409
PRIOR APPLICATION NUMBER: 09/35,409
PRIOR APPLICATION NUMBER: 09/55,7969
PRIOR APPLICATION 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 21
US-09-567-969-5
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; TYPE: PRT
; ORGANISM: Sorangium cellulosum
US-09-568-102-5
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APPLICANT: Schupp, Thomas

APPLICANT: Ligon, James

APPLICANT: Wolnar, Istvan

APPLICANT: 21rkb, Ross

APPLICANT: 21rkb, Ross

APPLICANT: Goerlach, Joern

APPLICANT: Goerlach, Joern

TITLE OF INVENTION: GENES FOR THE BIOSYNTHESIS OF EPOTHILONES

FILE REFERENCE: 4-30582A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/568,102
CURRENT FILING DATE: 2000-05-10
PRIOR APPLICATION NUMBER: 09/335,409
PRIOR FILING DATE: 1999-06-17
NUMBER OF SEQ ID NOS: 30
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 5
LENGTH: 7257
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Patent No. 6346404
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Best Local Similarity 100
Matches 6; Conservative
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nes 6; Conserv
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 Mismatches

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Pred. No. 1.6e+03;
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Query Match

23.1%;

Score 6;

DB 4;

Length 7257;

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APPLICANT: Schupp, Thomas
APPLICANT: Kigon, James
APPLICANT: Minar, Istvan
APPLICANT: Minar, Istvan
APPLICANT: Zirkle, Ross
APPLICANT: Cyr, Devon
APPLICANT: Gerlach, Joern
TITLE OF INVENTION: GENES FOR THE BIOSYNTHESIS OF EPOTHILONES
FILE REFERENCE: 4-30582A
CURRENT APPLICATION UNMEER: US/09/568,486
CURRENT FILING DATE: 1090-05-10
PRIOR APPLICATION NUMBER: 09/335,409
PRIOR FILING DATE: 1999-06-17
NUMBER OF SEQ ID NOS: 30
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SEQ ID NO 5
LENGTH: 7257
TYPE: PRT
CRGANISM: Sorranglum cellulosum
US-09-568-480-5
                                                                                                   SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 5

LENGTH: 7257

TYPE: PRT

ORGANISM: Sorangium cellulosum
US-09-568-486-5
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Best Local Similarity
Matches 6; Conserv
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  Query Match
Best Local Similarity
Matches 6; Conserv
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APPLICANT: Cyr, Devon
APPLICANT: Cyr, Devon
APPLICANT: Gocriach, Joern
APPLICANT: Gocriach, Joern
TITLE OF INVENTION: GENES FOR THE BIOSYNTHESIS OF EPOTHILONES
FILE REFERENCE: 4-30582A
CURRENT EPELICATION NUMBER: US/09/568,480
CURRENT FILING DATE: 2000-05-10
CURRENT FILING DATE: 2000-05-10
PRIOR APPLICATION NUMBER: 09/335,409
PRIOR FILING DATE: 1999-06-17
NUMBER OF SEO ID NOS: 30
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APPLICANT: Ligon, James
APPLICANT: Molnar, Istv
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Zirkle, Ross
  23.1%;
ilarity 100.0%;
Conservative (
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Score 6; DB 4; Length 7257; pred. No. 1.6e+03; 0; Mismatches 0; Indels

 Mismatches

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); Mismatches 0;
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2999 EHLLVD 3004

15

EHLLVD 20

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APPLICANT: CY, Devon
APPLICANT: Goerlach, Joern
APPLICANT: Goerlach, Joern
TITLE OF INVENTION: GENES FOR THE BIOSYNTHESIS OF EPOTHILONES
FILE REFERENCE: 4-30582A
CURRENT APPLICATION NUMBER: U5/09/568,472
CURRENT FILING DATE: 2000-05-10
PRIOR APPLICATION NUMBER: 09/335,409
PRIOR RILING DATE: 1999-06-17
NUMBER OF SEQ ID NOS: 30
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 5
SEQ ID NO 5
LENGTH: 7257
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: Sorangium cellulosum US-09-568-472-5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence 20, Application US/09057897 Patent No. 6300476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 5, Application US/09568472 Patent No. 6358719
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CLASSIFICATION:
ATTORINEY/AGENT INFORMATION:
ANAME: HAND, J. MAR'K
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 1990
TELECOMMUNICATION INFORMATION:
TELEPHONE: (732,594-3905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
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                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/057,897
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co., Inc.
STREET: P.O. Box 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Lu, Anthony Y.H.
APPLICANT: Wang, Regina W.
TITLE OF INVENTION: Anti-Peptide Antibody Against Human
TITLE OF INVENTION: Cytochrome P450 3A4
NUMBER OF SEQUENCES: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2999 EHLLVD 3004
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nes 6; Conserv
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ZIP: 07065-0907
                                                                                                                                                                                                                                                                                                                                                               CITY: Rahway
                                                                                                                                                                                                                                                                                                                                           걸
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Zirkle, Ross
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No. 1.6e+03;
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Query Match

19.28;

Score 5;

DB 3;

Length 8;

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Query Match
Best Local Similarity
""tohes 5; Conserve
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; TOPOLOGY: 1in
; MOLECULE TYPE:
US-09-057-897-20
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US-08-159-339A-1184
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                                                                                                                                                           APPLICATION NUMBER: US/08/159,339A
FILING DATE: 29-00V-1993
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/926,666
FILING DATE: 07-AUG-1992
APPLICATION NUMBER: US 08/027,746
FILING DATE: 05-MAR-1993
APPLICATION NUMBER: US 08/103,396
FILING DATE: 06-AUG-1993
ATTORNEY/AGENT INFORMATION:
NAME: Waber, Ellen Lauver
REGISTRATION NUMBER: 032,762
REFERENCE/DOCKET NUMBER: 018623-005030US
TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
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                                                                                              INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for I
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 1254
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Grey, Howard M.
APPLICANT: Sette, Alessandro
APPLICANT: Celis, Esteban
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                  MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: USA
ZIP: 94111-3834
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                             TOPOLOGY:
                                              STRANDEDNESS:
                                                               TYPE: amino acid
                                                                             LENGTH:
                                                                                                                                                TELEFAX: (415) 576-0300
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: 1254
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; Pred. No. 1.7e+05;
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US-08-159-339A-95
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RESULT 28
US-08-164-839-66
; Séquence 66, Application US/08164839
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                                                                                                                                    Query Match
Best Local Similarity
"hes 5; Conserve
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Matches 5; Conservative (
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SOFTWARE: FastSEQ for
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANA.
TITLE OF INVENTION: HLA BITITLE OF INVENTION: Uses
TITLE OF CROHENCES: 1254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Kubo, Ralph T.
APPLICANT: Grey, Howard M.
APPLICANT: Sette, Alessandro
APPLICANT: Celis, Esteban
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER: 32,762
REFERENCE/DOCKET NUMBER: 018623-005030US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Weber, Ellen Lauver
REGISTRATION NUMBER: 32,7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 07-AUG-1992
APPLICATION NUMBER: US 08/027,746
FILING DATE: 05-AWR-1993
APPLICATION NUMBER: US 08/103,396
FILING DATE: 06-AUG-1993
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FILING DATE: 29-NOV-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 424
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                               STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 07/926,666 FILING DATE: 07-AUG-1992
                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                               TYPE: amino acid
                                                                                                                                                                                                                                                                                                                LENGTH:
                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (415) 576-0300
                                                                                       4 GFLLL 8
                                                                                                                    3 GFLLL 7
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for Windows Version 2.0
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100.0%; Pred. No.
tive 0; Mismatch
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DB 3; Le
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                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: pept
US-08-164-839-66
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Best Local Similarity
"-+"hes 5; Conserva
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                                                                                                                                                                                                      Patent No. 5607849
GENERAL INFORMATION:
                                                                                                                                                                                                                                       Sequence 66,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY AGENT INFORMATION:
NAME: 0010N NO. 5514573man F
REGISTRATION NUMBER: 24,618
REFERENCE POCKET NUMBER: 10-5
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)413-2220
TELEPAX: (703)413-2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
APPLICANT:
                                                                                                                                      APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
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COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA: APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: GENE ENCO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
                                                           CORRESPONDENCE ADDRESS:
                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: a
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ZIP: 22202
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CITY: Arlington
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1 LLVDF 5
                                                                                                                                                                                                                                                                                                                                                   17 LLVDF 21
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TELEX: 248855 OPAT UR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                          ADDRESSEE:
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                                                                                                                                                                                                                                      Application US/08583799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10 amino acids
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                                                                                                                                      NAKANISHI, KAZUO
MOTOKI, MASAO
NAGASE, KAZUO
                                                                                                                                                                                        YASUEDA, HISASHI
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APPLICANT: MATSUI, HIROSHI
TITLE OF INVENTION: GENE ENCODING TRANSGLUTAMINASE DERIVED
TITLE OF INVENTION: FROM FISH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1755 Jefferson Davis Highway, Fourth Floor
1755 Jefferson Davis Highway, Fourth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19.2%; Score 5; DB ilarity 100.0%; Pred. No. 34 Conservative 0; Mismatches
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                                    OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HIROSHI
GENE ENCODING TRANSGLUTAMINASE DERIVED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/08/164,839
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o. 34;
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COUNTRY: U ZIP: 22202

U.S.A.

CITY: Arlington STATE: Virginia

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Best Local Similarity
"---hes 5; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-159-339A-593
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TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 66:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: maino acid
TYPE: maino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No. 6037135
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 593, Application US/08159339A
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTMARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/159,339A
FILING DATE: 29-NOV-1993
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION UNBER: US 07/926,666
FILING DATE: 07-AUG-1992
                                                                                                                                                                                                                                                                                                                                  APPLICANT: Kubo, Ralph T.
APPLICANT: Grey, Howard M.
APPLICANT: Sette, Alessandro
APPLICANT: Celis, Esteban
TITLE OF INVENTION: HLA Binding peptides and Their
TITLE OF INVENTION: Uses
UNMBER OF SEQUENCES: 1254
CORRESPONDENCE ADDRESS:
ADDRESSEE: Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 435
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNMERE: 08/004,729
FILING DATE: 14-JAN-1993
ATTORNEY/AGENT INFORMATION:
NAME: 0blon, No. 5607849man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 10-599-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)412-3000
                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
COPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: (703)413-2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/583,799 FILING DATE:
                                                                                                                                                                                                                                                        COUNTRY: USA
ZIP: 94111-3834
                                                                                                                                                                                                                                                                                                                    CITY: San Francisco
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100.0%; Pred. No.
Live 0; Mismatc
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; MOLECULE TYPE: US-09-057-897-18
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Best Local Similarity
                                                                                                                                                                                                                                                                                COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC DOS/MS-DOS
SOSTWARE: Patentin Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/057,897
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 08/027,746
FILING DATE: 05-MAR-1993
APPLICATION NUMBER: US 08/103,396
FILING DATE: 06-AUG-1993
ATTORNEY,AGENT INFORMATION:
NAME: Weber: Ellen Lauver
REGISTRATION NUMBER: 32,762
REFERENCE/DOCKET NUMBER: 018623-005030US
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                          TELEFAX: (732)594-4720 INFORMATION FOR SEQ ID NO:
                                                                                                                                                           CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 1990
TELECOMMUNICATION INFORMATION:
TELEPHONE: (732)594-3905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO:
      TOPOLOGY: 1'

OCTERISTICS:

11 amino acids

STRANDEDNESS: S'

TOPOLOGY: 1'

OLECULE "

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LENGTH: 10 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Wang, Regina W.
TITLE OF INVENTION: Anti-Peptide Antibody Against Human
TITLE OF INVENTION: Cytochrome P450 3A4
NUMBER OF SEQUENCES: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Lu, Anthony Y.H. APPLICANT: Wang, Regina W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: US
ZIP: 07065-0907
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STATE: NJ
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GENERAL INFORMATION:
APPLICANT: LOGD, Lawrence A.
APPLICANT: Kin, Back
APPLICANT: Kin, Back
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR SCREENING
TITLE OF INVENTION: FOR ANTI-AIDS DRUGS
FILE REFERENCE: 920010.410C3
CURRENT APPLICATION NUMBER: US/09/060,039
CURRENT ETLING DATE: 1998-04-13
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FASTSEQ for Windows Version 3.0
LENGTH: 12
LENGTH: 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: Randomly generated mutation of segment of HIV OTHER INFORMATION: gene which encodes a portion of the putative OTHER INFORMATION: nucleotide binding site US-09-060-039-9
                                                                                                                                                                               LENGTH: 14
5169933-6
                                                                                                                                                                                                                                                                APPLICANT: ANDERSON, DAVID C.; MORGAN, CHARLES JR.; FRITZBERG,
JALAN R.; NICHOLS, EVERETT J.
TITLE OF INVENTION: CAVALENTLY-LINKED COMPLEXES AND METHODS
FOR ENHANCED CYTOTOXICITY AND IMAGING
NUMBER OF SEQUENCES: 45
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/390,241
FILING DATE: 07-AUG-1989
PRIOR APPLICATION DATA:
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;Patent No. 5169933
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Best Local Similarity
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RESULT
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Best Local Similarity
Matches 5; Conser
                                                                                                           Query Match
Best Local Similarity
Matches 5; Conser
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ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17 LLVDF 21
                                                                                                                                                                                                                                  APPLICATION NUMBER: 232,337 FILING DATE: 15-AUG-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7 VDFLQ 11
 34
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                                                                             GFLLL 7
                                              GFLLL 11
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                                                                                                           19.2%;
llarity 100.0%;
Conservative
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100.0%; Pred. No. 40)
Live 0; Mismatches
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                                                                                                              0;
                                                                                                                            Score 5;
Pred. No.
                                                                                                                Mismatches
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US-07-918-181A-17
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Best Local Similarity
"atches 5; Conservations
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FILING DATE: 23-JUL-1992
CLASSIFICATION: 435
AITORNEY/AGENT INFORMATION:
NAME: Sheets, Eric J.
REGISTRATION NUMBER: 50,326
REGISTRATION NUMBER: FOW-2
REFERENCE/DOCKET NUMBER: FOW-2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-645-2054
INFORMATION FOR SEQ ID NO: 17:
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                                                                                                                                                                                                                                                      Sequence 21, Application US/07918181A Patent No. 5338833 GENERAL INFORMATION:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Fowlkes, Da
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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STREET: New York
CITY: New York
Thited
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
HYPOTHETICAL: NO
ANTI-SENSE: NO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
COMPUTER: IBM PC com
                                                                                                                                                                                                          APPLICANT: FOWLKES,
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS
 CURRENT
                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                      20 DFLQS 24
|||||
3 DFLQS 7
                                                                                                                            STREET: 180 Var
CITY: New York
STATE: New York
          COMPUTER: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Pelason
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH:
                                                                                                  COUNTRY: UZIP: 10014
                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10014
ARE: PatentIn Release #1.0, Version #1.25 APPLICATION DATA:
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                                                                                                                              New York
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15 amino acids
                                                                                                                                                            E: ImClone Systems
180 Varick Street
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                                                                                                              United States
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                                                                                                                                                                                                                               C-Terminal IL-6 Muteins
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Pred. No. 49;
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TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: C-terminal
US-07-918-181A-21
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                                                                                                                                           APPLICATION NUMBER: US/08/231,575
EFILING DATE: 22-APR 1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/918,181
FILING DATE: 23-JUL-1992
ATTORNEY/AGENT INFORMATION:
NAME: Sheets, Eric J.
REGISTRATION NUMBER: 50%-2
REGISTRATION NUMBER: FOW-2
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
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                                                                                       TELEFAX: 212-645-2054
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: FOWIKES, Dana M.
TITLE OF INVENTION: C-Terminal IL-6 Muteins
NUMBER OF SEQUENCES: 35
CORRESPONDENCE ADDRESS:
ANDERSON. ---
                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOETWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REGISTRATION NUMBER: 30,326
REFERENCE/DOCKET NUMBER: FON
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-645-1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION: NAME: Sheets, Eric J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 180 Vari
CITY: New York
STATE: New York
    OLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/07/918,181A FILING DATE: 23-JUL-1992 CLASSIFICATION: 435
                                   LENGTH: 15 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: United States ZIP: 10014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20 DFLQS 24
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mes 5; Conserva
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180 Varick Street
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            linear
peptide
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                                                                                                                17:
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; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; FRAGMENT TYPE: C-terminal
US-08-231-575-17
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Best Local Similarity
Watches 5; Conserve
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PRIOR POTOR: 25 PRIOR POTOR POTOR
                                                                                                    Query Match
Best Local Similarity
Matches 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 212-645-2054
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 15 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAIOR APPLICATION DATA:
PAPLICATION NUMBER: US 07/918,181
FILING DATE: 23-JUL-1992
ATTORNEY/AGENT INFORMATION:
NAME: Sheets, ETIC J.
REGISTRATION NUMBER: 30,326
REFERENCE/DOCKET NUMBER: FOW-2
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TITLE OF INVENTION: C-Terminal IL-6 Muteins
NUMBER OF SEQUENCES: 35
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: peptide HYPOTHETICAL: NO ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: 212-645-1405
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CITY: New York
STATE: New Yor
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                                                               20 DELQS 24
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TOPOLOGY: 11
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3 DFLQS 7
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                                                                                                                                 Conservative
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                                                                                                                                                               Score 5; DB 1; Pred. No. 49;
                                                                                                                              0; Mismatches
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                                                                                                                                                                                             Length 15;
                                                                                                                              0; Indels
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US-08-159-339A-1183

RESULT

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Best Local Similarity
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                                                                                                                                                                                                                                            RESULT
                                                                                                                                     Sequence 17, Application PC/TUS9306928
GENERAL INFORMATION:
APPLICANT: Fowlkes, Dana M.
TITLE OF INVENTION: Carboxy Terminal IL-6 Muteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 15 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTMARE: FESSESO for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US./08/159,339A
FILING DATE: 29-NOV-1993
CLASSIFICATION NUMBER: US. 07/926,666
APPLICATION NUMBER: US. 07/926,666
FILING DATE: 07-AUG-1992
APPLICATION NUMBER: US. 08/027,746
FILING DATE: 05-MAR-1993
APPLICATION NUMBER: US. 08/103,396
FILING DATE: 06-AUG-1993
APPLICATION NUMBER: US. 08/103,396
FILING DATE: 06-AUG-1993
ATTORNEY/ACENT INFORMATION:
NAME: Weber; Ellen Lauver
REGISTRATION NUMBER: 32,762
REGISTRATION NUMBER: 018623-005030US
TELEPHONE: (415) 576-0300
TELEPAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1183, Application US/08159339A
Patent No. 6037135
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APPLICANT: Grey, Howard M.
APPLICANT: Sette, Alessandro
APPLICANT: Celis, Esteban
TITLE OF INVENTION: Uses
TITLE OF INVENTION: Uses
NUMBER OF SEQUENCES: 1254
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COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                       NUMBER OF SEQUENCES: 35
CORRESPONDENCE ADDRESS:
ADDRESSEE: Inclone Systems Incorporated
STREET: 180 Varick Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:

ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                      10 GFLLL 14
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CITY: San Francisco
COUNTRY: U.S.A.
                      CITY: New York
STATE: New Yor
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Query Match
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Watches 5; Conserve
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PCT-US93-06928-21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 21, Application PC/TUS9306928
GENERAL INFORMATION:
APPLICANT: Fow.Les, Dana M.
              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/918,181
EILING DATE: 23-JUL-11992
AFFORNEY/AGENT INFORMATION:
NAME: Felt, ITVING N.
REGISTRATION NUMBER: 28,601
REFERENCE/DOCKET NUMBER: FON-2-T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: 212-645-140
TELEFAX: 212-645-2054
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 15 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/918
FILING DATE: 23-UL-1992
ATTORNEY/ACENT INFORMATION:
NAME: FEIL TIVING N.
REGISTRATION NUMBER: 28,601
REFERENCE/DOCKET NUMBER: FOW
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-645-1405
                                                                                                                                                            SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/06928
FILING DATE: 19930723
                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 11014
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: Carboxy Terminal IL-6 Muteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ANTI-SENSE: N
FRAGMENT TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE:
HYPOTHETICAL:
TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                CLASSIFICATION
                                                                                                                                                                                                                                                                                                               COUNTRY: U
ZIP: 11014
                                                                                                                                                                                                                                                                                                                                                   STATE:
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                                                                                                                                                                                                                                                                                                                                                                SSEE: ImClone Systems Incorporated T: 180 Varick Street New York
                                                                                                                                                                                                                                                                                                                                                 New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15 amino acids
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100.0%; Pred. No. 49;
tive 0; Mismatches
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APPLICANT: Weston, MA 02193

APPLICANT: U.S.A.

TITLE OF INVENTION: STIMULATION OF HEMATOPOIETIC CELLS IN TITLE OF INVENTION: VITRO FILE REFRENCE: 10348/7005

CURRENT RILING DATE: 1998-09-29

EARLIER APPLICATION NUMBER: US 60/060,306

EARLIER APPLICATION NUMBER: US 60/060,306

EARLIER APPLICATION NUMBER: 198-09-29

NUMBER OF SEQ ID NOS: 20

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 18

LENGTH: 20

TYPE: PRT

ORGANISM: homo sapiens

US-09-162-934-18
                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
""tches 5; Conserve
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US-09-162-934-18
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Best Local Similarity luv.
Thrhes 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: 212-645-1405
TELEPAS: 212-645-2054
INFORMATION FOR SEQ ID NO: 21
SEQUENCE CHARACTERISTICS:
LENGTH: 15 anino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Bachovchin, William APPLICANT: 71 Warwick Road APPLICANT: Melrose, MA 02176 APPLICANT: U.S.A.
APPLICANT: Wallner, Barbara APPLICANT: 64 Arrowhead Road
                                                                                                                Sequence 1, Application US/09057897 Patent No. 6300476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 18, Appli
Patent No. 6258597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
       GENERAL INFORMATION:
APPLICANT: Lu, Anthony Y.H.
APPLICANT: Lu, Anthony Y.H.
APPLICANT: Wang, Regina W.
TITLE OF INVENTION: Anti-Peptide Antibody Against Human
TITLE OF INVENTION: Cytochrome P450 3A4
NUMBER OF SEQUENCES: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLACTIVE: POMOLECULE TYPE: POMOLECULE TYPE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ANTI-SENSE: NO
FRAGMENT TYPE:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                 11 LQMDF 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20 DFLQS 24
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linear
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NO
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100.0%; Pred. No. 49;
ative 0; Mismatches
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100.0%; Pred. No.
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; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-09-057-897-1
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TELEBAX: (732)594-4720
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 21 amino 777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 32, Application US/09057897 Patent No. 6300476
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Matches 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
ATTORREY/AGENT INFORMATION:
ANAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 199
TELECOMMUNICATION INFORMATION:
TELEPHONE: (732)594-3905
                                                                                                                                                          COMPUTER READABLE FORM:

EDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PATENTIA PCLASSE #1.0, Version #1.30

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: ISM PC compatible
COMPRATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Lu, Anthony Y.H.
APPLICANT: Wang, Regina H.
TITLE OF INVENTION: Anti-Peptide Antibody Against Human
TITLE OF INVENTION: Cytochrome P450 3A4
NUMBER OF SEQUENCES: 36
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (732)594-3905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Me
STREET: P.O.
CITY: Rahway
STATE: NJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/09/057,897 FILING DATE: CLASSIFICATION:
                                                                                                        APPLICATION NUMBER: US/09/057,897
FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17 VDFLQ 21
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ZIP: 07065-0907
                                                                                                                                                                                                                                                                                                             STATE:
                                                                                                                                                                                                                                                                                                                           CITY: Rahway
                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Merck & Co., Inc. STREET: P.O. Box 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                        07065-0907
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32:

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LENGTH: 21 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-09-057-897-32
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Best Local Similarity
Fig. 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-248-588-24
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LENGTH: 22
                                                                                                                                                                                                                                                                                                                     Patent No. 6258597
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Strategically Modified Hepatitis B Core Proteins and TITLE OF INVENTION: their Derivatives FILE REFERENCE: SYN-101 4564/69529 CURRENT APPLICATION NUMBER: US/09/248,588 CURRENT FILING DATE: 1999-02-11 EARLIER APPLICATION NUMBER: 60/074537 EARLIER APPLICATION NUMBER: 60/074537 EARLIER DATE: 1998-02-12 NUMBER: 05/05 113 COMMERCE OF SEQ. ID NOS: 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (732)594-4720
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                             Sequence 17,
TITLE OF INVENTION: STIMULATION OF HEMATOPOIETIC CELLS TITLE OF INVENTION: VITRO FILE REFERENCE: 10248/7005
CURRENT APPLICATION NUMBER: US/09/162,934
CURRENT FILING DATE: 1998-09-29
CARLIER APPLICATION NUMBER: US 60/060,306
EARLIER APPLICATION NUMBER: US 60/060,306
EARLIER FILING DATE: 1997-09-29
NUMBER OF SEQ ID NOS: 20
SUFTWARE: FASTSEQ for Windows Version 3.0
                                                                                                                                                                     APPLICANT: U.S.A.
APPLICANT: Wallner, Barbara
APPLICANT: 64 Arrowhead Road
APPLICANT: Weston, MA 02193
APPLICANT: U.S.A.
APPLICANT: U.S.A.
                                                                                                                                                                                                                                                              APPLICANT: Bachovchin, William APPLICANT: 71 Warwick Road APPLICANT: Melrose, MA 02176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn Ver. 2.0
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les 5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
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100.0%; Pred. No.
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STRANDEDNESS:
TOPOLOGY: line
MOLECULE TYPE: p
US-09-057-897-2
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Best Local Similarity
Watches 5; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; TYPE: PRT; ORGANISM: homo sapiens US-09-162-934-17
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US-09-057-897-2
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RESULT 47
US-08-220-378-3
                                                              B
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NAME: HAND, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 1990:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (732)594-3905
TELEPAX: (732)594-3905
TELEPAX: (732)594-720
INFORMATION FOR SEQ. ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/09057897
Patent No. 6300476
GENERAL INFORMATION:
APPLICANT: Lu, Anthony Y.H.
APPLICANT: Wang, Regina W.
APPLICANT: Wang, Regina W.
TITLE OF INVENTION: Anti-Peptide Antibody Against Human
TITLE OF INVENTION: Cytochrome P450 3A4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 17
LENGTH: 22
                                                                                                                          Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/09/057,897 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: US
ZIP: 07065-0907
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co., Inc.
STREET: P.O. Box 2000
                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: P.O. CITY: Rahway STATE: NJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13 LQMDF 17
                                                             18 VDFLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                        TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 LQMDF 11
                                                                                              19 VDFLQ 23
                                                                22
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                                                                                                                             19.2%; Score 5; DB ilarity 100.0%; Pred. No. 70 Conservative 0; Mismatches
                                                                                                                                                                                                                                         s: single
linear
                                                                                                                                                                                                                           peptide
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100.0%; Pred. No.
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Sequence 3, Application US/08220378 Patent No. 5545716

GENERAL INFORMATION:

APPLICANT: Johnson, Howard M. APPLICANT: Pontzer, Carol H. APPLICANT: Griggs, Nathan D.

Superantigen Agonist and Antagonist

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Query Match
Best Local Similarity
Watches 5; Conserve
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; MOLECULE TYPE:
US-08-220-378-3
                                                                                                                                                                                                                                                                                                                                                                          US-08-696-012-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION:
TELEPHONE: 904-375-8100
TELEFAX: 904-372-5800
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
                                                                                                                                                                                                                                                                                                                Sequence 3, Application US/08696012
Patent No. 5859207
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/941
FILING DATE: 08-SEP-1992
ATTORNEY/AGENT INFORMATION:
NAME: Saliwanchik, David R.
                                                                                                                                                                              APPLICANT: Johnson, Howard M.
APPLICANT: Pontzer, Carol H.
APPLICANT: Griggs, Nathan D.
TITLE OF INVENTION: Superantige
TITLE OF INVENTION: Peptides
NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: Superant TITLE OF INVENTION: Peptides NUMBER OF SEQUENCES: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
STRANDEDNESS: si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/08/220,378 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Gainesville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17 LLVDF 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 31,794
REFERENCE/DOCKET NUMBER: UF126.C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 32606
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                                                          COUNTRY:
                                                                                                                           ADDRESSEE: Saliwanchik & Saliwanchik STREET: 2421 N.W. 41st Street, Suite A-1 CTTY: Gainesville
                                                                                                                                                                                                                                                                                                                                                                                                                                                6 LLVDF 10
                                                                          32606
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2421 N.W. 41st Street, Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                            USA
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linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19.2%; Score 5; DB 100.0%; Pred. No. 78 tive 0; Mismatches
                                                                                                                                                                                                                                        Superantigen Agonist and Antagonist
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Query Match
Best Local Similarity
Tatches 5; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Hayden,
APPLICANT: Goldber,
APPLICANT: Andrew,
APPLICANT: Rommens
APPLICANT: Lin, BJ.
                                                                                                                        COUNTRY: USA

COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
COPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DAYA:
APPLICATION NUMBER: US/08/126,587C
FILING DATE: 24-SEP-1993
EATTOWNEY/AGENT INDOMATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence 2, Application US/08126587C
Patent No. 5534438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Saliwanchik, David R.
REGISTRATION NUMBER: 31,794
REFERENCE/DOCKET NUMBER: UF12
TELECOMMUNICATION INFORMATION:
TELEPHONE: 904-375-8100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: 904-372-5800 INFORMATION FOR SEQ ID NO:
ATTORNEY/AGENT INFORMATION:
NAME: LAYCON Jr., Samuel G.
REGISTRATION NUMBER: 22,807
REFERENCE/DOCKET NUMBER: 3477
TELECOMMUNICATION INFORMATION:
TELEPHONE: 704-377-1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/0:
FILING DATE: 12-AUG-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Rommens, Johanna M. APPLICANT: Lin, Blaoyang TITLE OF INVENTION: Process for TITLE OF INVENTION: Causative of TITLE OF INVENTION: Polyadenyli
                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17 LLVDF 21
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CITY: Charlotte
STATE: No. 5534438th Carolina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: 904-3, TELEPHONE: 904-372-5800
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FILING DATE: 99 MAR-1994
APPLICATION NUMBER: US 07/941,497
FILING DATE: 08-SEP-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Bell Seltzer Park & Gibson STREET: 1211 E. Morehead Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6 LLVDF 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19.2%; Score 5; DB 2; illarity 100.0%; Pred. No. 78; Conservative 0; Mismatches
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Andrew, Susan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PatentIn Release #1.0, Version #1.25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Process for Isolating Genes and the Gene
Causative of Huntington's Disease and Differential 3'
Polyadenylation in the Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US/08/696,012
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APPLICALLAN.

APPLICALLAN.

FILING DATE:

ATTORNEY_AGENT INFORMATION:

NAME: Kass, Alan P
REGISTRATION NUMBER: 32142
REFERENCE/DOCKET NUMBER: Case Docket 9339

TELECOMMUNICATION INFORMATION:

TELLEPHONE: (201) 235-4205

TELLEFAX: (201) 235-2333

INFORMATION FOR SEO ID NO: 10:

SEQUENCE CHARACTERISTICS:
LENGTH: 36 amino acids
TYPE: brotein
US-08-868-435-10
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US-08-868-435-10
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                                            Query Match
Best Local Similarity
Matches 5; Conserva
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Patent No. 6291221
GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 35 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/868,435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: United States of ZIP: 07110
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: POLYPEPTIDES WITH PHYTASE ACTIVITY NUMBER OF SEQUENCES: 35
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hoffmann-La Roche Inc.
STREET: 340 Kingsland Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/744,231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Van Loon, Adolphus
APPLICANT: Mitchell, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16 LOSLS 20
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22 LQSLS 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Nutley
STATE: New J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New Jersey
Y: United States of America
                                                                19.2%; Score 5; DB 4; Length 36; milarity 100.0%; Pred. No. 1.1e+02; Conservative 0; Mismatches 0; Indels
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                                                                       Indels
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Db 30 LQSLS 34

Search completed: June 19, 2002, 11:07:59 Job time: 124 sec

, and support the concept that inhibition of CETP activity in vivo can be anti-atherogenic. Currently, this vaccine is in clin. trials. ST atherosclerosis vaccine cholesteryl ester transfer protein peptide HDL cholesterol ΙT Proteins RL: BSU (Biological study, unclassified); BIOL (Biological study) (cholesterol ester-exchanging, peptide, conjugate with tetanus toxin peptide; vaccine contg. a cholesteryl ester transfer protein peptide for treatment of low plasma HDL-Cholesterol and atherosclerosis) IT Lipoproteins RL: BSU (Biological study, unclassified); BIOL (Biological study) (high-d., cholesterol; vaccine contg. a cholesteryl ester transfer protein peptide for treatment of low plasma HDL-Cholesterol and atherosclerosis) ΙT Toxins RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (tetanus, peptide, conjugate with CETP peptide; vaccine contg. a cholesteryl ester transfer protein peptide for treatment of low plasma HDL-Cholesterol and atherosclerosis) TΤ Atherosclerosis Immunotherapy Vaccines (vaccine contg. a cholesteryl ester transfer protein peptide for treatment of low plasma HDL-Cholesterol and atherosclerosis) ΙT 57-88-5, Cholesterol RL: BSU (Biological study, unclassified); BIOL (Biological study) (HDL; vaccine contq. a cholesteryl ester transfer protein peptide for treatment of low plasma HDL-Cholesterol and atherosclerosis) IT 430455-98-4 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (vaccine contq. a cholesteryl ester transfer protein peptide for treatment of low plasma HDL-Cholesterol and atherosclerosis) THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 13 (1) Agellon, L; J Biol Chem 1991, V266(17), P10796 HCAPLUS (2) Anon; Lancet 1994, V344(8934), P1383 (3) Brown, M; Nature 1989, V342(6248), P448 HCAPLUS (4) Cashin-Hemphill, L; Online J Curr Clin Trials 1992, Doc No 26 (5) Cashin-Hemphill, L; published erratum appears in Online J Curr Clin Trials 1992, Doc No 29 (6) Gaynor, B; Atherosclerosis 1994, V110(1), P101 HCAPLUS (7) Gordon, D; N Engl J Med 1989, V321(19), P1311 MEDLINE (8) Herrera, V; Nat Med 1999, V5(12), P1383 HCAPLUS (9) Murphy, S; Natl Vital Stat Rep 2000, V48(11), P1 MEDLINE (10) Okamoto, H; Nature 2000, V406(6792), P203 HCAPLUS (11) Rittershaus, C; Arterioscler Thromb Vasc Biol 2000, V20(9), P2106 HCAPLUS (12) Sugano, M; J Biol Chem 1998, V273(9), P5033 HCAPLUS (13) Whitlock, M; J Clin Invest 1989, V84(1), P129 HCAPLUS L42 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2002 ACS AN 2001:651566 HCAPLUS

135:225853

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ТT
     Plasmid-based vaccine for treating atherosclerosis
IN
     Thomas, Lawrence J.
PA
     AVANT Immunotherapeutics, Inc., USA
     U.S., 35 pp., Cont.-in-part of U.S. Ser. No. 802,967.
SO
     CODEN: USXXAM
DT
     Patent
LA
     English
     ICM C12N018-88
ICS A61K048-00
TC
NCL
     435320100
CC
     15-2 (Immunochemistry)
     Section cross-reference(s): 3, 63
FAN. CNT 2
     PATENT NO.
                       KIND DATE
                                            APPLICATION NO. DATE
                                              -----
                                                                -----
                                                               19981002
PΙ
     US 6284533
                        В1
                              20010904
                                              US 1998-171969
     WO 9741227
                        A1
                              19971106
                                             WO 1997-US7294
                                                               19970501
         W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE,
              ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,
              SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
PRAI US 1996-52983P
                       ₽
                              19960501
     US 1997-802967
                        A2
                              19970221
     WO 1997-US7294
                        W
                              19970501
     US 1996-640713
                        Α
                              19960501
AΒ
     A plasmid-based vaccine is provided herein based on the
     combination of DNA segments coding for one or more B cell epitopes
     of cholesteryl ester transfer
     protein (CETP) and one or more broad range helper T cell
     epitopes. Administration of the plasmids as a vaccine
     to a vertebrate subject provides an immune response to the subject's
     endogenous CETP and modulation of CETP activity,
     leading to prevention or reversal of various manifestations of heart
     disease. The vaccines provide an advantageous strategy for the
     prevention or treatment of atherosclerosis.
     plasmid vaccine cholesteryl ester
     transfer protein; atherosclerosis autoantibody
     cholesteryl ester transfer protein
IT
     Histocompatibility antigens
     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
         (MHC (major histocompatibility complex), class II; plasmid-based
        vaccine encoding B cell epitope of
        cholesteryl ester transfer protein
        and helper T cell epitope of tetanus toxoid
        or diphtheria toxoid for treating
        atherosclerosis)
ΙT
     Antibodies
     RL: BSU (Biological study, unclassified); MFM (Metabolic formation); THU
     (Therapeutic use); BIOL (Biological study); FORM (Formation,
     nonpreparative); USES (Uses)
        (autoantibodies; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
IT
     Proteins, specific or class
     RL: BSU (Biological study, unclassified); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
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(cholesterol ester-exchanging;
        plasmid-based vaccine encoding B cell epitope of
        cholesteryl ester transfer protein
        and helper T cell epitope of tetanus toxoid
        or diphtheria toxoid for treating
        atherosclerosis)
ΙT
     Toxoids
     RL: BSU (Biological study, unclassified); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (diphtheria; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
ΙT
     B cell (lymphocyte)
        (epitope; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
ΙT
     T cell (lymphocyte)
        (helper cell; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
ΙT
     Influenza
        (hemagglutinin; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
IT
     Fissurella
        (hemocyanin; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
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     Lipoproteins
     RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU
     (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
        (high-d., increase; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
IT
     Gene, microbial
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (immediate early, enhancer; plasmid-based vaccine encoding B
        cell epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
IT
     Enhancer (genetic element)
     Promoter (genetic element)
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (immediate early; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
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TT
     Hemagglutinins
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (influenza; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
ΙT
     Drug delivery systems
        (injections, i.m.; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
ΙT
     Drug delivery systems
        (intradermal; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
ΙT
     Hemocyanins
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (keyhole limpet; plasmid-based vaccine
        encoding B cell epitope of cholesteryl
        ester transfer protein and helper T cell
        epitope of tetanus toxoid or
        diphtheria toxoid for treating
        atherosclerosis)
IΤ
     Lipoproteins
     RL: BSU (Biological study, unclassified); REM (Removal or disposal); THU
     (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
        (low-d., decrease; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
ΙT
    Animal cell
        (mammalian; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
ΙT
     Infection
        (measles, vaccine; plasmid-based vaccine encoding B
        cell epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
ΙT
     Lipids, processes
     RL: REM (Removal or disposal); PROC (Process)
        (neutral; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
IT
     Salivary gland
        (parotid, mumps, vaccine; plasmid-based
        vaccine encoding B cell epitope of
        cholesteryl ester transfer protein
        and helper T cell epitope of tetanus toxoid
        or diphtheria toxoid for treating
        atherosclerosis)
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TT
     Atherosclerosis
     DNA sequences
       Epitopes
     Heart, disease
     Molecular cloning
     Mycobacterium BCG
     Plasmids
       Protein sequences
     T cell (lymphocyte)
       Vaccines
     Vertebrate (Vertebrata)
        (plasmid-based vaccine encoding B cell epitope of
        cholesteryl ester transfer protein
       and helper T cell epitope of tetanus toxoid
       or diphtheria toxoid for treating
       atherosclerosis)
TΤ
     DNA
     RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
     PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (plasmid-based vaccine encoding B cell epitope of
       cholesteryl ester transfer protein
       and helper T cell epitope of tetanus toxoid
       or diphtheria toxoid for treating
       atherosclerosis)
ΙT
     Fusion proteins (chimeric proteins)
     RL: BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); PREP (Preparation); USES (Uses)
        (plasmid-based vaccine encoding B cell epitope of
       cholesteryl ester transfer protein
       and helper T cell epitope of tetanus toxoid
       or diphtheria toxoid for treating
       atherosclerosis)
ΙT
    TCR (T cell receptors)
     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
        (plasmid-based vaccine encoding B cell epitope of
       cholesteryl ester transfer protein
       and helper T cell epitope of tetanus toxoid
       or diphtheria toxoid for treating
       atherosclerosis)
IT
    Invariant chain (class II antigen)
    RL: BSU (Biological study, unclassified); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (plasmid-based vaccine encoding B cell epitope of
       cholesteryl ester transfer protein
       and helper T cell epitope of tetanus toxoid
       or diphtheria toxoid for treating
       atherosclerosis)
ΙT
    Human herpesvirus 5
        (promoter; plasmid-based vaccine encoding B cell
       epitope of cholesteryl ester
       transfer protein and helper T cell epitope
       of tetanus toxoid or diphtheria
       toxoid for treating atherosclerosis)
TT
    Tuberculin
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (purified protein deriv.; plasmid-based vaccine
       encoding B cell epitope of cholesteryl
       ester transfer protein and helper T cell
       epitope of tetanus toxoid or
       diphtheria toxoid for treating
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atherosclerosis)
IΤ
     Toxoids
     RL: BSU (Biological study, unclassified); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (tetanus; plasmid-based vaccine encoding B cell
        epitope of cholesteryl ester
        transfer protein and helper T cell epitope
        of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
ΙT
     Pertussis
       Poliomyelitis
     Rubella
       Tuberculosis
        (vaccine; plasmid-based vaccine encoding B cell
       epitope of cholesteryl ester
        transfer protein and helper T cell epitope
       of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
     111274-16-9 122525-86-4, Sialoglycoprotein CETP
IT
     (rabbit clone .lambda.RCETP.2/.lambda.RCETP.1 protein moiety
    reduced) 199062-33-4
    RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
     (Biological study)
        (amino acid sequence; plasmid-based vaccine encoding B cell
       epitope of cholesteryl ester
        transfer protein and helper T cell epitope
       of tetanus toxoid or diphtheria
        toxoid for treating atherosclerosis)
    199063-97-3 359035-23-7 359035-24-8
TΤ
    RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
     (Biological study)
        (nucleotide sequence; plasmid-based vaccine encoding B cell
       epitope of cholesteryl ester
       transfer protein and helper T cell epitope
       of tetanus toxoid or diphtheria
       toxoid for treating atherosclerosis)
                    172273-71-1P
                                   172273-72-2P
                                                  172273-73-3P
                                                                  172273-74-4P
ΙT
    172273-70-0P
                    253309-86-3P
                                   359016-11-8P
    172273-75-5P
    RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
    PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (plasmid-based vaccine encoding B cell epitope of
       cholesteryl ester transfer protein
       and helper T cell epitope of tetanus toxoid
       or diphtheria toxoid for treating
       atherosclerosis)
                   184882-09-5
                                 359016-20-9
                                               359016-22-1
ΙT
    119260-99-0
    RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES
        (plasmid-based vaccine encoding B cell epitope of
       cholesteryl ester transfer protein
       and helper T cell epitope of tetanus toxoid
       or diphtheria toxoid for treating
       atherosclerosis)
    359035-61-3, 6: PN: US6284533 SEQID: 6 unclaimed DNA
TT
                                                            359035-62-4, 8: PN:
    US6284533 SEQID: 8 unclaimed DNA
    RL: PRP (Properties)
        (unclaimed nucleotide sequence; plasmid-based vaccine for
       treating atherosclerosis)
    88265-18-3, Toxin (Corynebacterium diphtheriae strain
ΙT
    C7 reduced)
    RL: PRP (Properties)
        (unclaimed protein sequence; plasmid-based vaccine for
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treating atherosclerosis)
ΙT
     126779-14-4
     RL: PRP (Properties)
        (unclaimed sequence; plasmid-based vaccine for treating
        atherosclerosis)
              THERE ARE 110 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT
        110
RE
(1) Ada, G; Fundamental Immunology, 3rd ed 1993, P1309
(2) Agellon, L; J Biol Chem 1991, V266, P10796 HCAPLUS
(3) Aitken, R; Brit Med Bull 1993, V49, P88 HCAPLUS
(4) Albers; Arteriosclerosis 1984, V4, P49 HCAPLUS
(5) Alexander; Immunity 1994, V1, P751 HCAPLUS
(6) Anderson; Nature 1998, V392, P25 HCAPLUS
(7) Anon; EP 0343460 A2 1989 HCAPLUS
(8) Anon; WO 9015627 1990 HCAPLUS
(9) Anon; WO 9210203 1992 HCAPLUS
(10) Anon; WO 9311782 1993 HCAPLUS
(11) Anon; WO 9323076 1993 HCAPLUS
(12) Anon; WO 9424567 1994 HCAPLUS
(13) Anon; WO 9425060 1994 HCAPLUS
(14) Anon; WO 9639168 1996 HCAPLUS
(15) Anon; Genetic Engineering News 1994, V14, P44
(16) Barter; J Lipid Res 1980, V21, P238 HCAPLUS
(17) Bevilacqua; J Clin Invest 1993, V91, P379 HCAPLUS
(18) Bisgaier; J Lipid Res 1991, V34, P1625
(19) Bisgaier; J Lipid Res 1993, V32, P21
(20) Breslow; Proc Natl Acad Sci USA 1993, V90, P8314 HCAPLUS
(21) Brown; Nature 1989, V348, P448
(22) Carlsson; Biochem J 1978, V173, P723 HCAPLUS
(23) Casali; Science 1986, V234, P476 HCAPLUS
(24) Castelli; J Am Med Assoc 1986, V256, P2835 MEDLINE
(25) Coligan, J; Current Protocols in Immunology 1994, P3.11.1
(26) Couture; US 5705388 1998 HCAPLUS
(27) Drayna; Nature 1987, V327, P632 HCAPLUS
(28) Elridge; Immunology of Proteins and Peptides V: Vaccines; Mechanisms,
    Designs, and Applications 1989, P191
(29) Engelhard; Sci Am 1994, P54 HCAPLUS
(30) Etlinger; Science 1990, V249, P423 HCAPLUS
(31) Etlinger, H; Immunol Today 1992, V13, P52 HCAPLUS
(32) Farmer, J; Heart Disease A Textbook of Cardiovascular Medicine, 4th ed
   1992, P1125
(33) Feldman; J Clinical Investigation 1995, V95(6), P2662 HCAPLUS
(34) Fielding; J Lipid Res 1995, V36, P211 HCAPLUS
(35) Frondorf; J Immunol Methods 1994, V172, P135
(36) Gavish; J Lipid Res 1987, V28, P257 HCAPLUS
(37) Gaynor; Atherosclerosis 1994, V110, P101 HCAPLUS
(38) Gordon; N Engl J Med 1989, V321, P1311 MEDLINE
(39) Green; Cell 1982, V28, P477 HCAPLUS
(40) Groener, J; Biochim Biophys Acta 1989, V1002, P93 HCAPLUS
(41) Ha; Biochim Biophys Acta 1985, V833, P203 HCAPLUS
(42) Ha; Comp Biochem Physiol 1986, V83B, P463 HCAPLUS
(43) Havel; The Metabolic Basis of Inherited Disease, 6th ed 1989, P1129
(44) Hayek; J Clin Invest 1992, V90, P505 HCAPLUS
(45) Hayek; J Clin Invest 1993, V91, P1665 HCAPLUS
(46) Hesler; J Biol Chem 1987, V262, P2275 HCAPLUS
(47) Hesler; J Biol Chem 1988, V263, P5020 HCAPLUS
(48) Ikewaki; J Clin Invest 1995, V96, P1573 HCAPLUS
(49) Inazu; N Engl J Med V323, P1234 MEDLINE
(50) Jarnagin; Proc Natl Acad Sci USA 1987, V84, P1854 HCAPLUS
(51) Jiang; J Biol Chem 1991, V268, P27406
(52) Jiang; J Biol Chem 1991, V266, P4631 HCAPLUS
(53) Kligfield; Am Heart J 1986, V112(3), P589 MEDLINE
```

(54) Korn; J Mol Biol 1972, V65, P525 HCAPLUS

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- (55) Kotake; J Lipid Res 1996, V37, P599 HCAPLUS
- (56) Kushwaha; J Lipid Res 1993, V34, P1285 HCAPLUS
- (57) Mabuchi, H; Annals N Y Acad Sci 1995, V748, P333 HCAPLUS
- (58) Madden; Ann Rev Immunol 1995, V13, P587 HCAPLUS
- (59) Mader, S; Human Biology, 4th ed 1995, P83 (60) Marguerite; Mol Immunol 1992, V29, P793 HCAPLUS
- (61) Marotti; Nature 1993, V364, P73 HCAPLUS
- (62) Mathews, C; Biochemistry 1990, P574
- (63) McCluskie; Molecular Medicine 1999, V5, P287 HCAPLUS
- (64) Means; Bioconjugate Chem 1990, V1, P2 HCAPLUS
- (65) Merck & Company Inc; The Merck Manual of Diagnosis and Therapy, 16th ed 1992, P22
- (66) Mezdour; Clin Chem 1994, V40/4, P593
- (67) Miller; Am Heart J 1987, V113, P589 HCAPLUS
- (68) Nagashima; J Lipid Res 1988, V29, P1643 HCAPLUS
- (69) Nelson; J Clin Invest 1993, V91, P1157 HCAPLUS
- (70) Palker; Proc Natl Acad Sci 1987, V84, P2479 HCAPLUS
- (71) Panina-Bordignon; Eur J Immonol 1989, V19, P2237 HCAPLUS
- (72) Pruitt; J Surg Res 1991, V50, P350 MEDLINE (73) Pruitt; Transplantation 1991, V52, P868 MEDLINE (74) Quig; Ann Rev Nutr 1990, V10, P169 HCAPLUS
- (75) Quinet; J Clin Invest 1990, V85, P357 HCAPLUS
- (76) Raju; Eur J Immunol 1995, V25, P3207 HCAPLUS (77) Roy, P; J Lipid Res 1996, V37, P22 HCAPLUS
- (78) Rye; J Biol Chem 1995, V270, P189 HCAPLUS
- (79) Sad; Immunol 1992, V76, P599 HCAPLUS
- (80) Shih; Molecular Medicine Today 1995, V1(8), P364 HCAPLUS
- (81) Stern; Nature 1994, V368, P215 HCAPLUS
- (82) Suckling; Bio/Technology 1994, V12, P1379 HCAPLUS
- (83) Swenson; J Biol Chem 1988, V263, P5150 HCAPLUS (84) Swenson; J Biol Chem 1989, V264, P14318 HCAPLUS
- (85) Tall, A; J Clin Invest 1990, V89, P379
- (86) Tall, A; J Internal Med 1995, V237, P5 HCAPLUS
- (87) Tall, A; J Lipid Res 1993, V34, P1255 HCAPLUS
- (88) Talwar; Proc Natl Acad Sci USA 1994, V91, P8532 HCAPLUS
- (89) Tam, J; Proc Natl Acad Sci 1988, V85, P5409 HCAPLUS
- (90) Tao; Nature 1993, V362, P755 HCAPLUS
- (91) Tato; Arteriscler, Thromb Vascular Biol 1995, V15, P112 MEDLINE
- (92) Travis; Science 1993, V262, P1974 MEDLINE
- (93) Tykocinskli; US 5242687 1993 HCAPLUS
- (94) Valmori; J Immunol 1992, V149, P717 HCAPLUS
- (95) Verma; Nature 1997, V389, P239 HCAPLUS
- (96) Wang; J Biol Chem 1992, V267, P17487 HCAPLUS
- (97) Wang; J Biol Chem 1993, V268, P1955 HCAPLUS
- (98) Wang; J Biol Chem 1995, V270, P612 HCAPLUS
- (99) Wang; Science 1991, V254, P285 HCAPLUS
- (100) Watanabe; Proc Natl Acad Sci USA 1992, V89, P5103 HCAPLUS
- (101) Watson; Molecular Biology of the Gene 4th ed 1987, P836
- (102) Wedrychowski; Biotechnology 1993, V11(4), P486 HCAPLUS
- (103) Weiner; US 5338829 1994 HCAPLUS
- (104) Weisman; Science 1990, V249, P146 HCAPLUS
- (105) Whitlock; J Clin Invest 1989, V84, P129 HCAPLUS
- (106) Yeh; J Immunol 1991, V146, P250 HCAPLUS
- (107) Yen; J Clin Invest 1989, V83, P2018 HCAPLUS
- (108) Zannis; Advances in Human Genetics 1993, V21, P145 MEDLINE
- (109) Zegers; Eur J Immunol 1993, V23, P630 HCAPLUS
- (110) Zhang; Cell 1994, V1, P751
- L42 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2002 ACS
- ΑN 2000:709161 HCAPLUS
- DN 134:40763
- TI Vaccine-induced antibodies inhibit CETP activity in vivo and reduce aortic lesions in a rabbit model of

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atherosclerosis
    Rittershaus, Charles W.; Miller, David P.; Thomas, Lawrence
ΑU
     J.; Picard, Michele D.; Honan, Christopher M.; Emmett, Constance D.;
     Pettey, Carolyn L.; Adari, Hedy; Hammond, Russell A.; Beattie, David T.;
    Callow, Allan D.; Marsh, Henry C.; Ryan, Una S.
CS
    AVANT Immunotherapeutics, Inc, Needham, MA, 02494, USA
SO
    Arteriosclerosis, Thrombosis, and Vascular Biology (2000), 20(9),
     2106-2112
    CODEN: ATVBFA; ISSN: 1079-5642
PB
    Lippincott Williams & Wilkins
DT
    Journal
LA
    English
    15-2 (Immunochemistry)
CC
     Section cross-reference(s): 14
    Using a vaccine approach, the authors immunized New Zealand
AB
    White rabbits with a peptide contg. a region of cholesteryl
    ester transfer protein (CETP) known
     to be required for neutral lipid transfer function. These
     rabbits had significantly reduced plasma CETP activity and an
     altered lipoprotein profile. In a cholesterol-fed rabbit model
    of atherosclerosis, the fraction of plasma cholesterol
     in HDL was 42% higher and the fraction of plasma cholesterol in
    LDL was 24% lower in the CETP-vaccinated group than in the control-vaccinated group. Moreover, the percentage of the
    aorta surface exhibiting atherosclerotic lesion was 39.6%
     smaller in the CETP-vaccinated rabbits than in
                The data reported here demonstrate that CETP activity
    can be reduced in vivo by vaccination with a peptide derived
     from CETP and support the concept that inhibition of
    CETP activity in vivo can be anti-atherogenic. In addn., these
     studies suggest that vaccination against a self-antigen is a
    viable therapeutic strategy for disease management.
    vaccine antibody cholesteryl ester
ST
     transfer protein atherosclerosis
TT
    Antiarteriosclerotics
        (antiatherosclerotics; vaccination with
        cholesteryl ester transfer protein
        alters lipoprotein profiles and ameliorates lesions in
        atherosclerosis model in relation to)
    Proteins, specific or class
IT
    RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
     (Uses)
        (cholesterol ester-exchanging;
        vaccination with cholesteryl ester
        transfer protein alters lipoprotein profiles and
        ameliorates lesions in atherosclerosis model)
IT
    Lipoproteins
     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
        (high-d.; vaccination with cholesteryl
        ester transfer protein alters
        cholesterol content of)
ΙT
    Lipoproteins
     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
        (low-d.; vaccination with cholesteryl ester
        transfer protein alters cholesterol content
        of)
IT
    Vaccines
        (synthetic; vaccination with cholesteryl
        ester transfer protein alters lipoprotein
        profiles and ameliorates lesions in atherosclerosis model)
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ΙT
     Antibodies
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); BIOL (Biological study)
        (to cholesteryl ester transfer
       protein in relation to immunotherapy of atherosclerosis
IT
    Atherosclerosis
        (vaccination with cholesteryl ester
        transfer protein alters lipoprotein profiles and
        ameliorates lesions in atherosclerosis model)
     57-88-5, Cholesterol, biological studies
IT
     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
        (vaccination with cholesteryl ester
        transfer protein alters plasma lipoprotein content
        of)
              THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT
       51
RE
(1) Agellon, L; J Biol Chem 1991, V266, P10796 HCAPLUS
(2) Arai, T; J Lipid Res 1996, V37, P2145 HCAPLUS
(3) Barter, P; Atherosclerosis 1996, V121, P1 HCAPLUS
(4) Barter, P; Biochem J 1982, V208, P1 HCAPLUS
(5) Barter, P; Clin Exp Pharmacol Physiol 1994, V21, P663 HCAPLUS
(6) Brown, M; Nature 1989, V342, P448 HCAPLUS
(7) Bruce, C; Annu Rev Nutr 1998, V18, P297 HCAPLUS
(8) Bruce, C; J Lipid Res 1998, V39, P1071 HCAPLUS
(9) Bu, X; Hum Genet 1994, V93, P639 HCAPLUS
(10) Canner, P; J Am Coll Cardiol 1986, V8, P1245 MEDLINE
(11) Fielding, C; J Clin Invest 1996, V97, P2687 HCAPLUS
(12) Freeman, D; Arterioscler Thromb 1994, V14, P336 HCAPLUS
(13) Gaynor, B; Atherosclerosis 1994, V110, P101 HCAPLUS
(14) Gordon, D; N Engl J Med 1989, V321, P1311 MEDLINE
(15) Gotoda, T; Biochem Biophys Res Commun 1993, V194, P519 HCAPLUS
(16) Guerin, M; Arterioscler Thromb Vasc Biol 2000, V20, P189 HCAPLUS
(17) Hannuksela, M; Atherosclerosis 1994, V110, P35 HCAPLUS
(18) Herrera, V; Nat Med 1999, V5, P1383 HCAPLUS
(19) Hesler, C; J Biol Chem 1988, V263, P5020 HCAPLUS
(20) Hill, S; Clin Biochem 1997, V30, P413 HCAPLUS
(21) Hirano, K; Arterioscler Thromb Vasc Biol 1997, V17, P1053 MEDLINE
(22) Inazu, A; J Clin Invest 1994, V94, P1872 HCAPLUS
(23) Jiang, X; J Biol Chem 1991, V266, P4631 HCAPLUS
(24) King, J; Am J Med 1994, V97, P323 MEDLINE
(25) Knopp, R; N Engl J Med 1999, V341, P498 MEDLINE
(26) Koizumi, J; Atherosclerosis 1985, V58, P175 MEDLINE
(27) Kolodgie, F; Arterioscler Thromb Vasc Biol 1996, V16, P1454 HCAPLUS
(28) Kotake, H; Biochem Biophys Acta 1997, V1347, P69 HCAPLUS
(29) Kothari, H; Atherosclerosis 1997, V128, P59 HCAPLUS
(30) Kuivenhoven, J; Arterioscler Thromb Vasc Biol 1997, V17, P560 MEDLINE
(31) Moriyama, Y; Prev Med 1998, V27, P659 MEDLINE
(32) Moulin, P; Horm Res 1996, V45, P238 HCAPLUS
(33) Panina-Borgignon, P; Eur J Immunol 1989, V19, P2237
(34) Rubins, H; N Engl J Med 1999, V341, P410 HCAPLUS
(35) Sakai, N; J Lipid Res 1996, V37, P2065 HCAPLUS
(36) Schonfeld, G; Am J Cardiol 1998, V81, P43B HCAPLUS
(37) Simons, L; Med J Aust 1996, V164, P208 MEDLINE
(38) Stefanick, M; N Engl J Med 1998, V339, P12 HCAPLUS
(39) Sugano, M; J Biol Chem 1996, V271, P19080 HCAPLUS
(40) Sugano, M; J Biol Chem 1998, V273, P5033 HCAPLUS
(41) Swenson, T; J Biol Chem 1989, V264, P14318 HCAPLUS
(42) Tall, A; J Intern Med 1995, V237, P5 HCAPLUS
(43) Tall, A; J Lipid Res 1993, V34, P1255 HCAPLUS
(44) Teh, E; J Lipid Res 1998, V39, P442 HCAPLUS
(45) Wang, S; Biochemistry 1991, V30, P3484 HCAPLUS
```

- (46) Wang, S; J Biol Chem 1992, V267, P17487 HCAPLUS
- (47) Weinberg, R; J Biol Chem 1994, V269, P29588 HCAPLUS
- (48) Whitlock, M; J Clin Invest 1989, V84, P129 HCAPLUS
- (49) Yen, F; J Clin Invest 1989, V83, P2018 HCAPLUS
- (50) Zhong, S; J Clin Invest 1996, V97, P2917 HCAPLUS
- (51) Zuckerman, S; Lipids 1995, V30, P307 HCAPLUS
- L42 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2002 ACS
- AN 2000:588130 HCAPLUS
- DN 134:36572
- TI Current, new and future treatments in dyslipidemia and atherosclerosis
- AU Chong, Pang H.; Bachenheimer, Bonnie S.
- CS College of Pharmacy, Cook County Hospital, University of Illinois, Chicago, IL, USA
- SO Drugs (2000), 60(1), 55-93 CODEN: DRUGAY; ISSN: 0012-6667
- PB Adis International Ltd.
- DT Journal; General Review
- LA English
- CC 1-0 (Pharmacology)
- A review with 294 refs. The new therapeutic options available to AB clinicians treating dyslipidemia in the last decade have enabled effective treatment for many patients. The development of the HMG-CoA reductase inhibitors (statins) have been a major advance in that they possess multiple pharmacol. effects (pleiotropic effects) resulting in potent redns. of low d. lipoproteins (LDL) and prevention of the atherosclerotic process. More recently, the newer fibric acid derivs. have also reduced LDL to levels comparable to those achieved with statins, have reduced triglycerides, and gemfibrozil has been shown to increase high d. lipoprotein (HDL) levels. Nicotinic acid has been made tolerable with sustained-release formulations, and is still considered an excellent choice in elevating HDL cholesterol and is potentially effective in reducing lipoprotein(a) [Lp(a)] levels, an emerging risk factor for coronary heart disease (CHD). Furthermore, recent studies have reported pos. lipid-lowering effects from estrogen and/or progestogen in postmenopausal women but there are still conflicting reports on the use of these agents in dyslipidemia and in females at risk for CHD. In addn. to lowering lipid levels, these antihyperlipidemic agents may have directly or indirectly targeted thrombogenic, fibrinolytic and atherosclerotic processes which may have been unaccounted for in their overall success in clin. trails. Although LDL cholesterol is still the major target for therapy, it is likely that over the next several years other lipid/lipoprotein and nonlipid parameters will become more generally accepted targets for specific therapeutic interventions. Some important emerging lipid/lipoprotein parameters that have been assocd. with CHD include elevated triglyceride, oxidized LDL cholesterol and Lp(a) levels, and low HDL levels. The nonlipid parameters include elevated homocysteine and fibrinogen, and decreased endothelial-derived nitric oxide prodn. Among the new investigational agents are inhibitors of squalene synthetase, acylCoA: cholesterol acyltransferase, cholesteryl ester transfer protein, monocyte-macrophages and LDL cholesterol oxidn. Future applications may include thyromimetic therapy, cholesterol vaccination, somatic gene therapy, and recombinant proteins, in particular, apolipoproteins A-I and E. Non-LDL-related targets such as peroxisome proliferator-activating receptors, matrix metalloproteinases and scavenger receptor class B type I may also have clin. significance in the treatment of atherosclerosis in the near future. Before lipid-lowering therapy, dietary and lifestyle modification is and should be the first therapeutic intervention in the management of dyslipidemia. Although current recommendations from the US and Europe are slightly different,

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adherence to these recommendations is essential to lower the risk of atherosclerotic vascular disease, more specifically CHD. New guidelines that are expected in the near future will encompass global opinions from the expert scientific community addressing the issue of target LDL goal (aggressive vs. moderate lowering) and the application of therapy for newer emerging CHD risk factors.

ST review antilipidemic agent dyslipidemia atherosclerosis

## IT Atherosclerosis

Hypolipemic agents

(current, new and future treatments in dyslipidemia and atherosclerosis)

IT Lipids, biological studies

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(dyslipidemia; current, new and future treatments in dyslipidemia and atherosclerosis)

RE.CNT 294 THERE ARE 294 CITED REFERENCES AVAILABLE FOR THIS RECORD RE

- (1) Abbey, M; Biochim Biophys Acta 1989, V1003, P29
- (2) Abe, J; Biochem Biophys Res Commun 1994, V198, P16 HCAPLUS
- (3) Adelman, S; Proceedings Xth International Congress of Atherosclerosis 1995, P316 HCAPLUS
- (4) Adkins, J; Drugs 1997, V54(4), P615 HCAPLUS
- (5) Alving, C; Proceedings Xth International Congress of Atherosclerosis 1995, P944 HCAPLUS
- (6) Ameli, S; Circulation 1994, V90, P1935 HCAPLUS
- (7) American Heart Association; 1998 heart and stroke statistical update 1997
- (8) Amin, D; J Pharmacol Exp Ther 1997, V281, P746 HCAPLUS
- (9) Anonymous; Control Clin Trials 1998, V19, P61
- (10) Aoyama, T; Circulation 1990, V81, P1784 MEDLINE
- (11) Arai, T; J Biol Chem 1999, V274, P2366 HCAPLUS
- (12) Arroyo, L; Can J Cardiol 1998, V14(Suppl B), P11B-13
- (13) Asami, Y; Gen Pharmacol 1998, V31, P593 HCAPLUS
- (14) Asami, Y; Life Sci 1998, V62, P1055 HCAPLUS
- (15) Assmann, G; Eur Heart J 1998, V19(Suppl M), PM8
- (16) Aviram, M; J Cardiovasc Pharmacol 1998, V31, P39 HCAPLUS
- (17) Avogaro, L; Atherosclerosis 1995, V113, P117
- (18) Badimon, J; Circulation 1992, V86(6 Suppl), PIII-86
- (19) Badimon, J; Lab Invest 1989, V89, P455
- (20) Bailey, J; Biochem Soc Trans 1994, V22, P433S HCAPLUS
- (21) Baker, S; S Afr Med J 1982, V62, P7 MEDLINE
- (22) Barrett-Connor, E; JAMA 1992, V265, P1861
- (23) Baxter, A; J Biol Chem 1992, V267, P11705 HCAPLUS
- (24) Beitz, I; Prostaglandins Leukot Essent Fatty Acids 1992, V47, P145
- (25) Bergstrom, J; Proc Natl Acad Sci U S A 1993, V90, P80 HCAPLUS
- (26) Bimmermann, A; Curr Ther Res 1991, V49, P635
- (27) Blankenhorn, D; JAMA 1987, V257, P3233 MEDLINE
- (28) Bocan, T; Atherosclerosis 1998, V13, P203
- (29) Bocan, T; Atherosclerosis 1998, V139, P231
- (30) Bocan, Y; Arterioscler Thromb 1991, V11, P1830
- (31) Boger, R; Atherosclerosis 1998, V136, P67 HCAPLUS
- (32) Bonanome, A; N Engl J Med 1988, V318, P1244 MEDLINE
- (33) Booth, R; Atherosclerosis 1989, V76, P257 MEDLINE
- (34) Britton, M; Am J Health Syst Pharm 1997, V54, P2815
- (35) Broijersen, A; Artheroscler Thromb 1995, V15, P121 MEDLINE
- (36) Brown, A; J Am Coll Cardiol 1998, V32, P665 HCAPLUS
- (37) Brown, G; N Engl J Med 1990, V323, P1289 MEDLINE
- (38) Brown, L; Am J Clin Nutr 1999, V69, P30 HCAPLUS
- (39) Brown, M; Science 1986, V232, P34 HCAPLUS
- (40) Brownlee, M; Science 1986, V232, P1629 HCAPLUS
- (41) Bunte, T; Atherosclerosis 1993, V98, P127 MEDLINE
- (42) Bustos, C; J Am Coll Cardiol 1998, P2057 HCAPLUS
- (43) Capuzzi, D; Am J Cardiol 1998, V82, P74U HCAPLUS



- (44) Carew, T; Proc Natl Acad Sci U S A 1987, V84, P7725 HCAPLUS
- (45) Carlson, L; Acta Med Scand 1988, V223, P405 MEDLINE
- (46) Cashin-Hemphill, L; JAMA 1990, V264, P3013 MEDLINE
- (47) Castelli, W; Am J Cardiol 1998, V82, P60T MEDLINE
- (48) Cauley, J; Atherosclerosis 1983, V49, P31 HCAPLUS (49) Cawston, T; Pharmacol Ther 1996, V70, P163 HCAPLUS
- (50) Chiari, A; Pharmacol Res 1996, V33, P181 HCAPLUS
- (51) Chiba, T; Arterioscler Thromb Vasc Biol 1997, V17, P2601 HCAPLUS
- (52) Chiesa, G; Metabolism 1993, V42, P229 MEDLINE
- (53) Chinetti, G; J Biol Chem 1998, V273, P25573 HCAPLUS (54) Cho, K; Biochim Biophys Acta 1998, V1391, P133 HCAPLUS
- (55) Coats, A; Postgrad Med J 1998, V74, P391 MEDLINE
- (56) Committee of Principal Investigators; Br Heart J 1978, V40, P1069
- (57) Committee of Principal Investigators; Lancet 1980, VII, P379
- (58) Corsini, A; Am J Cardiol 1995, V76(Suppl), P21A
- (59) Cullen, P; Eur Heart J 1998, V19(Suppl O), P013-9
- (60) Darling, G; N Engl J Med 1997, V337, P595 HCAPLUS
- (61) Davey, P; Am J Cardiol 1998, V82, P414 MEDLINE
- (62) Davidson, M; Am J Cardiol 1993, V71, P32B MEDLINE
- (63) Davidson, M; Arch Intern Med 1991, V151, P1732 MEDIJINE(64) Davidson, M; Arch Intern Med 1999, V159(16), P1893 HCAPLUS
- (65) Davidson, M; JAMA 1991, V265, P1833 MEDLINE
- (66) Daviglus, M; N Engl J Med 1997, V336, P1046 MEDLINE
- (67) Davignon, J; Diabetes Metab 1995, V21, P139 HCAPLUS
- (68) Davis, H; Atherosclerosis 1994, V109, P162
- (69) DeBruin, T; J Clin Endocrinol Metab 1993, V76, P121 MEDLINE
- (70) de Lorgeril, M; J Am Coll Cardiol 1996, V29, P1103
- (71) Down, J; JAMA 1998, V279, P1615
- (72) Durrington, P; Atherosclerosis 1998, V141(Suppl 1), PS57
- (73) Egashira, K; Circulation 1994, V89, P2519 MEDLINE
- (74) Egashira, K; Circulation 1996, V94, P130 HCAPLUS
- (75) Eichstadt, H; Am J Cardiol 1995, V76(Suppl), P122A
- (76) Engler, H; Clin Chem 1993, V39, P2466 MEDLINE
- (77) Ericsson, C; Lancet 1996, V347, P849 MEDLINE
- (78) Ernest, G; Ann Intern Med 1993, V118, P956
- (79) Esper, R; Drugs 1998, V56(Suppl 1), P1
- (80) Excoffon, K; Arterioscler Thromb Vasc Biol 1997, V17, P2532 HCAPLUS
- (81) Farmer, J; Heart disease: a textbook of cardiovascular medicine. 4th ed 1992, P1126
- (82) Finckh, B; Eur J Clin Pharmacol 1991, V40, PS77
- (83) Foger, B; Clin Investig 1994, V72, P294 MEDLINE
- (84) Franceschini, G; Atherosclerosis 1991, V88, P99 HCAPLUS
- (85) Franceschini, G; Clin Pharmacol Ther 1995, V57, P434 HCAPLUS
- (86) Franceschini, G; J Biol Chem 1985, V260, P16321 HCAPLUS
- (87) French, B; Curr Opin Cardiol 1998, V13, P205 MEDLINE
- (88) Frick, M; Circulation 1997, V96, P2137 HCAPLUS
- (89) Frock, M; N Engl J Med 1987, V317, P1237
- (90) Fruchart, J; Am J Cardiol 1998, V81, P912 MEDLINE
- (91) Fruebis, J; J Lipid Res 1997, V38, P2455 HCAPLUS
- (92) Fujii, S; Circulation 1992, V85, P1888 HCAPLUS
- (93) Galis, Z; Circulation 1998, V97, P2445 HCAPLUS
- (94) Galis, Z; FASEB J 1995, V9, P974 HCAPLUS
- (95) Galis, 2; J Clin Invest 1994, V94, P2493 HCAPLUS
- (96) Gardner, S; Ann Pharmacother 1997, V31, P677 HCAPLUS
- (97) George, S; Hum Gene Ther 1998, V9, P867 HCAPLUS
- (98) Gholami, K; J Clin Pharm Ther 1998, V23, P213 HCAPLUS
- (99) Glomset, J; Curr Opin Lipidol 1991, V2, P118 HCAPLUS
- (100) Goldberg, A; Am J Cardiol 1998, V82, P35U HCAPLUS
- (101) Goldbourt, U; Am J Cardiol 1993, V71, P909 MEDLINE
- (102) Gordon, B; Ther Apher 1997, V1(3), P249 MEDLINE
- (103) Gotto, A; Am J Cardiol 1993, V71, P3B
- (104) Gotto, A; Circulation 1993, V87(Suppl III), PIII-54
- (105) Gotto, A; Cleve Clin J Med 1996, V63, P31

	•	
·		

- (106) Grossman, M; Nat Genet 1994, V6, P335 HCAPLUS (107) Grundy, S; Circulation 1998, V97, P1436 MEDLINE (108) Grundy, S; Circulation 1998, V97, P1876 MEDLINE
- (109) Guerin, M; Arterioscler Thromb Vasc Biol 1995, V15, P1359 HCAPLUS
- (110) Guyton, J; Am J Cardiol 1998, V82, P18U HCAPLUS
- (111) Hainer, J; Clin Pharmacol Ther 1994, V56(1), P65 HCAPLUS
- (112) Harats, D; Atherosclerosis 1990, V85, P47 HCAPLUS
- (113) Harman, H; Am J Cardiol 1991, V67, P957
- (114) Harris, N; Clin Pharmacol 1990, V48, P189
- (115) Harris, W; J Cardiovasc Pharmacol 1997, V30, P55 HCAPLUS
- (116) Hasibeder, H; Eur J Clin Pharmacol 1991, V40(Suppl 1), PS91
- (117) Hayek, T; J Cardiovasc Pharmacol 1998, V31, P540 HCAPLUS
- (117) Hayek, 1; 3 cardiovasc Filalimacol 1350, V31, 1340 HeAL255 (118) Henry, P; Am J Hypertens 1993, V6(11 Pt 2), P328S MEDLINE (119) Hertz, R; J Biol Chem 1995, V270, P13470 HCAPLUS (120) Hidaka, Y; Atherosclerosis 1992, V95, P87 HCAPLUS (121) Hidaka, Y; J Biol Chem 1991, V266, P13171 HCAPLUS (122) Higaki, I; Arterioscler Thromb Vasc 1998, V18, P1304

- (123) Hoffmann, A; Biochim Biophys Acta 1996, V1299, P95 HCAPLUS
- (124) Hoogerbrugge, N; J Intern Med 1998, V243, P355 HCAPLUS
- (125) Huettinger, M; Arterioscler Thromb 1993, V13, P1005 HCAPLUS
- (126) Hulley, S; JAMA 1998, V280, P605 HCAPLUS
- (127) Hunninghake, D; JAMA 1989, V261, P3419
- (128) Hussain, M; J Biol Chem 1989, V264, P9571 HCAPLUS
- (129) Inazu, A; N Engl J Med 1990, V323, P1234 MEDLINE
- (130) Ishigami, M; J Biochem 1994, V116, P257 HCAPLUS
- (131) Jackson, S; Arterioscler Thromb Vasc Biol 1999, V19, P2094 HCAPLUS
- (132) Jha, P; Ann Intern Med 1995, V123, P860 MEDLINE
- (133) Ji, Y; J Biol Chem 1997, V272, P20982 HCAPLUS
- (134) Jialal, I; Can J Cardiol 1995, V11(Suppl), P97G
- (135) Jialal, I; Circulation 1993, V88, P2780 HCAPLUS
- (136) Johnson, M; Diabetes 1993, V42, P1179 HCAPLUS
- (137) Jones, P; Am J Cardiol 1998, V81, P582 HCAPLUS
- (138) Josefson, D; BMJ 1999, V318(7186), P753
- (139) Jukema, J; Circulation 1995, V91, P2528 MEDLINE
- (140) Kane, J; JAMA 1990, V264, P3007 MEDLINE
- (141) Kannel, W; Ann Intern Med 1979, V90, P85 MEDLINE
- (142) Kashyap, M; Am J Cardiol 1998, V82, P42U HCAPLUS
- (143) Keber, I; Fibrinolysis 1994, V8(Suppl 2), P57
- (144) Kinlay, S; J Cardiovasc Pharm 1998, V32(Suppl 3), PS62
- (145) Knopp, R; Metabolism 1998, V47, P1097 HCAPLUS
- (146) Kon, K; Circulation 1999, V99, P354
- (147) Kothari, H; Atherosclerosis 1997, V128, P59 HCAPLUS
- (148) Kozarsky, K; J Biol Chem 1994, V269, P13695 HCAPLUS
- (149) Kozarsky, K; Nature 1997, V387, P414 HCAPLUS
- (150) Krause, B; Arterioscler Thromb 1994, V14, P598 HCAPLUS
- (151) Krause, B; Lipids 1998, V33, P489 HCAPLUS
- (152) Kwiterovich, P; Am J Cardiol 1998, V82(12A), P3U-17 HCAPLUS
- (153) Kwiterovich, P; Am J Cardiol, discussion 1998, V82(12A), P39U-41
- (154) Kwiterovich, P; J Am Diet Assoc 1997, V97(7 Suppl), PS31
- (155) Laitinen, M; Curr Opin Lipidiol 1998, V9, P465 HCAPLUS
- (156) Leclerc, G; J Clin Invest 1992, V90, P936 MEDLINE
- (157) Lendon, C; Atherosclerosis 1991, V87, P87 MEDLINE
- (158) Lipid Research Clinics Program; JAMA 1984, V251, P351
- (159) Locker, P; Clin Pharmacol Ther 1995, V57, P73 MEDLINE
- (160) Lopez, D; Arch Biochem Biophys 1998, V351, P159 HCAPLUS
- (161) Lyons, T; Am J Cardiol 1993, V71, P26B HCAPLUS
- (162) MAAS Investigators; Lancet 1994, V344, P633
- (163) Ma, P; Proc Natl Acad Sci U S A 1986, V83, P792 HCAPLUS
- (164) Madej, A; Int J Clin Pharmacol Ther 1998, V36, P345 HCAPLUS
- (165) Maggi, F; Atherosclerosis 1993, V100, P127 HCAPLUS
- (166) Mahley, R; J Clin Invest 1989, V83, P2125 HCAPLUS
- (167) Manson, J; Ann Epidemiol 1995, V5, P261 MEDLINE
- (168) Marcovina, S; Am J Cardiol 1998, V82, P57U-66 HCAPLUS

- (169) Maron, D; Circulation 2000, V101(2), P207 HCAPLUS
- (170) Marx, N; Am J Pathol 1998, V153, P17 HCAPLUS
- (171) Massaro, M; Cardiologia 1999, V44(6), P507 MEDLINE
- (172) Matzno, S; J Lipid Res 1997, V38, P1639 HCAPLUS
- (173) Maziere, C; Biochim Biophys Acta 1996, V1300, P30 HCAPLUS
- (174) McDonald, C; BMJ 1995, V311, P977 HCAPLUS
- (175) McKenney, J; Am Pharm 1993, VNS33, P3
- (176) McKenney, J; JAMA 1994, V271, P672 MEDLINE
- (177) Mehta, J; J Am Coll Cardiol 1998, V31, P1217 MEDLINE
- (178) Minamikawa, J; J Clin Endocrinol Metab 1998, V83, P1041 HCAPLUS
- (179) Moran, C; Arterioscler Thromb 1994, V14, P1356 HCAPLUS
- (180) Morehouse, L; J Lipid Res 1999, V40, P464 HCAPLUS
- (181) Morel, D; J Lipid Res 1983, V24, P1020
- (182) Morgan, J; Am J Cardiol 1998, V82, P29U HCAPLUS
- (183) Morton, R; Arterioscler Thromb Vasc Biol 1997, V17, P3041 HCAPLUS
- (184) Mosca, L; J Am Coll Cardiol 1997, V30, P392 HCAPLUS
- (185) Muhlestein, J; J Investig Med 1998, V46, P396 MEDLINE
- (186) Muller, C; Nutrition 1999, V15, P249
- (187) Murakami, S; Cell Mol Biol 1996, V42, P865 HCAPLUS
- (188) Musanti, R; J Lipid Res 1996, V37, P1 HCAPLUS
- (189) Nakaya, N; Atherosclerosis 1994, V109, P253
- (190) National Cholesterol Education Program Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel II); JAMA 1993, V269, P3015
- (191) National Heart, Lung and Blood Institute; Morbidity and mortality 1996 chartbook of cardiovascular, lung, and blood diseases 1996
- (192) Nevin, D; Arterioscler Thromb Vasc Biol 1996, V16(10), P1243 HCAPLUS
- (193) Nicolosi, R; Atherosclerosis 1998, V137, P77 HCAPLUS
- (194) Nilsson, A; J Am Coll Cardiol 1997, V30, P1886
- (195) Odeh, R; Pharmacoptherapy 1995, V15, P648 MEDLINE
- (196) Ooi, T; Arterioscler Thromb Vasc Biol 1997, V17, P1793 HCAPLUS
- (197) Ormrod, D; Atherosclerosis 1998, V138, P329 HCAPLUS
- (198) O'Brien, K; Circulation 1996, V94, P1216 MEDLINE
- (199) Pathasarathy, S; Proc Natl Acad Sci U S A 1990, V87, P3894
- (200) Pedersen, T; Circulation 1998, V97(15), P1453 HCAPLUS
- (201) Perez-Jimenez, F; Am J Cardiol 1995, V75, P648 MEDLINE
- (202) Philipp, C; Am J Cardiol 1998, V82, P697 HCAPLUS
- (203) Picard, I; Atherosclerosis 1994, V109, P162
- (204) Pitt, B; 71st Scientific Sessions of the American Heart Association 1998, abstract 3342
- (205) Pitt, B; J Am Coll Cardiol 1995, V26, P1133 HCAPLUS
- (206) Qian, H; Circulation 1999, V99(23), P2979 HCAPLUS
- (207) Quyyumi, A; Circulation 1997, V95, P104 HCAPLUS
- (208) Rader, D; Int J Clin Lab Res 1997, V27, P35 HCAPLUS
- (209) Reinoehl, J; Am Heart J 1996, V131, P1184 MEDLINE
- (210) Rigotti, A; Proc Natl Acad Sci U S A 1997, V94, P12610 HCAPLUS
- (211) Rinninger, F; Arterioscler Thromb Vasc Biol 1999, V19, P1325 HCAPLUS
- (212) Rosengart, T; J Cardiovasc Risk 1999, V6(1), P29 MEDLINE
- (213) Rosenson, R; JAMA 1998, V279, P1643 HCAPLUS
- (214) Ross, R; N Engl J Med 1999, V340, P115 MEDLINE
- (215) Rubins, H; N Engl J Med 1999, V341, P410 HCAPLUS
- (216) Rutherford, C; Atherosclerosis 1997, V130, P45 HCAPLUS
- (217) Sacks, F; Lancet 1994, V344, P1182 MEDLINE
- (218) Sacks, F; N Engl J Med 1996, V335, P1001 HCAPLUS
- (219) Saitoh, K; Folia Pharmacol Jpn 1995, V106, P41 HCAPLUS
- (220) Sakai, N; Eur J Clin Invest 1995, V25, P332 MEDLINE
- (221) Saku, K; Thromb Res 1985, V39, P1 HCAPLUS
- (222) Saxena, U; J Clin Invest 1992, V89, P373 HCAPLUS
- (223) Scaccini, C; 9th International Symposium on Atherosclerosis 1991, abstract no 193, P144
- (224) Scandinavian Simvastatin Survival Study Group; Lancet 1995, V345, P1274
- (225) Schwandt, P; Eur J Clin Pharmacol 1994, V47, P133 MEDLINE
- (226) Schwenke, D; Circ Res 1998, V83, P366 HCAPLUS

÷			
	÷		

- (227) Setsuda, M; Clin Ther 1993, V15, P374 MEDLINE
- (228) Shepard, J; Drugs 1994, V47(Suppl 2), P1
- (229) Shimano, H; Proc Natl Acad Sci U S A 1992, V89, P1750 HCAPLUS
- (230) Simons, M; Nature 1992, V359, P67 HCAPLUS
- (231) Sirtori, C; Cardiovasc Drugs Ther 1993, V7, P817 MEDLINE
- (232) Sirtori, C; Pharmacol Ther 1995, V67, P433 HCAPLUS
- (233) Sirtori, C; Proceedings Xth International Congress of Atherosclerosis 1995, P1083
- (234) Skottova, N; Phytother Res 1999, V13(6), P535 HCAPLUS
- (235) Soma, M; Arterioscler Thromb 1993, V13, P571 HCAPLUS
- (236) Soma, M; Circ Res 1995, V76, P405 HCAPLUS
- (237) Spady, D; J Lipid Res 1999, V40, P1384 HCAPLUS
- (238) Sperber, A; Am J Med 1991, V91, P597 MEDLINE
- (239) Sprecher, D; Am J Cardiol 1998, V82, P49U HCAPLUS
- (240) Staels, B; Nature 1998, V393, P790 HCAPLUS
- (241) Stangl, H; J Biol Chem 1998, V273, P31002 HCAPLUS
- (242) Stedronsky, E; Biochim Biophys Acta 1994, V1210, P255 HCAPLUS
- (243) Steele, R; Proceedings Xth International Congress of Atherosclerosis 1995, P321 HCAPLUS
- (244) Steg, P; Circulation 1994, V90, P1648 HCAPLUS
- (245) Stein, J; Atherosclerosis 1998, V137, P401 HCAPLUS
- (246) Steinbrecher, U; Proc Natl Acad Sci U S A 1984, V81, P3883 HCAPLUS
- (247) Steiner, G; Diabetologia 1996, V39, P1655 MEDLINE
- (248) Steinmetz, A; J Cardiovasc Pharmacol 1996, V27, P563 HCAPLUS
- (249) Stephan, Z; Atherosclerosis 1996, V126, P53 HCAPLUS
- (250) Suzukawa, M; Biofactors 1998, V7, P51 HCAPLUS
- (251) Swahn, E; Clin Drug Invest 1998, V15, P473 HCAPLUS
- (252) Talbert, R; Pharmacotherapy: a pathophysiologic approach 1997, P459
- (253) Tanaka, A; J Med Chem 1998, V41, P2390 HCAPLUS
- (254) Tanaka, H; Atherosclerosis 1994, V107, P187 HCAPLUS
- (255) Taylor, A; Mol Pharmacol 1997, V52, P542 HCAPLUS
- (256) Temple, N; Biomed Pharmacother 1996, V50, P261 HCAPLUS
- (257) The Alpha-Tocopheral, Beta Carotene Cancer Prevention Study Group; N Engl J Med 1994, V330, P1029
- (258) The Coronary Drug Project Research Group; JAMA 1972, V220, P996
- (259) The Coronary Drug Project Research Group; JAMA 1975, V231, P360
- (260) The LIPID Study Group; N Engl J Med 1998, V339, P1349
- (261) The Post Coronary Artery Bypass Graft trial Investigators; N Engl J Med 1997, V336, P153
- (262) The Writing Group for the PEPI Trial; JAMA 1995, V273, P199
- (263) Trachtenberg, J; Circulation 1993, V88, PI-522
- (264) Travis, J; Science 1993, V262, P1974 MEDLINE
- (265) Treasure, C; N Engl J Med 1995, V332, P481 MEDLINE
- (266) Trigatti, B; Proc Natl Acad Sci U S A 1999, V96, P9322 HCAPLUS
- (267) Tsutsumi, K; J Clin Invest 1993, V92, P411 HCAPLUS
- (268) Tuck, C; Arterioscler Thromb Vasc Biol 1997, V17, P1822 HCAPLUS
- (269) Uchida, T; Atherosclerosis 1998, V137, P97 HCAPLUS
- (270) Ueno, H; Arterioscler Thromb Vasc Biol 1997, V17, P2453 HCAPLUS
- (271) Vaidya, S; Arch Biochem Biophys 1998, V355, P84 HCAPLUS
- (272) Van de Vijer, L; Prostaglandins Leukot Essent Fatty Acids 1997, V57, P479
- (273) Varban, M; Proc Natl Acad Sci U S A 1998, V95, P4619 HCAPLUS
- (274) Verhoef, P; Curr Opin Lipidol 1998, V9, P17 HCAPLUS
- (275) Vogel, R; Prog Cardiovasc Dis 1998, V41, P117 HCAPLUS
- (276) Walldius, G; Am J Cardiol 1994, V74, P875 MEDLINE
- (277) Walsh, B; JAMA 1998, V279, P1445 HCAPLUS
- (278) Walsh, B; N Engl J Med 1991, V325, P1196 HCAPLUS
- (279) Waters, D; Circulation 1994, V89, P959 MEDLINE
- (280) Watkins, T; 9th International Symposium on Atherosclerosis 1991, abstract no 268
- (281) Welsh, G; N Engl J Med 1998, V338, P1042
- (282) West Scotland Coronary Prevention Study Group; Circulation 1998, V97, P1440
- (283) Wierzbicki, A; QJM 1997, V90, P631 MEDLINE

```
(284) Wilcox, L; Arterioscler Thromb Vasc Biol 1999, V19, P939 HCAPLUS
(285) Willson, T; Curr Opin Chem Biol 1997, V1, P235 MEDLINE
(286) Xu, S; J Lipid Res 1997, V38, P1289 HCAPLUS
(287) Yamada, N; J Clin Invest 1992, V89, P706 HCAPLUS
(288) Yamada, N; Proc Natl Acad Sci U S A 1989, V86, P665 HCAPLUS
(289) Yamamoto, A; Am J Cardiol 1986, V57, P29H MEDLINE
(290) Yasuhara, M; Biol Pharm Bull 1997, V20, P1056 HCAPLUS
(291) Zaltsman, A; Arterioscler Thromb Vasc Biol 1999, V19, P1700 HCAPLUS
(292) Zaltsman, A; Atherosclerosis 1997, V130, P61 HCAPLUS
(293) Zhu, B; Am Heart J 1990, V119, P168 MEDLINE
(294) Zsigmond, E; Hum Gene Ther 1997, V8, P1921 HCAPLUS
    ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2002 ACS
AN
     1999:819268 HCAPLUS
DN
     132:77607
TI
     Artificial T helper cell epitopes as immune stimulators for
     synthetic peptide immunogens
IN
    Wang, Chang Yi
     United Biomedical Inc., USA
PΑ
SO
     PCT Int. Appl., 129 pp.
    CODEN: PIXXD2
DΤ
     Patent
LA
    English
     ICM A61K045-00
IC
    ICS C07K019-00
     15-2 (Immunochemistry)
    Section cross-reference(s): 2
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                                        WO 1999-US13975 19990621
                     A2 19991229
    WO 9966957
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            IE. FI
PRAI US 1998-100412
                      Α2
                           19980620
    WO 1999-US13975
                           19990621
                     W
    Disclosed are immunogenic peptide compns. comprising a T helper
AR
    epitope linked to a target antigenic site or a synthetic B cell
    epitope, and optionally with a immunostimulatory sequence for
    inducing T helper cell-mediated immune response and producing high level
    of antibodies directed against the "target antigen". The disclosed
    immunogenic peptide compns. are useful for contraception or control of
    hormone-dependent tumor (with LH-releasing hormone as target), growth
    promotion in farm animal (with somatostatin as target), treatment of
    allergy (with IgE as target), prevention of HIV infection (with CD4
    receptor as target), prevention of foot-and-mouth disease (with FMDV
    capsid protein as target), treatment of malaria (with circumsporozoite
    antigen of Plasmodium falciparum as target), and treatment of
    arteriosclerosis (with cholesteryl ester transport protein as
    target).
ST
    T helper cell epitope antigen immunostimulant; vaccine
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T B cell epitope

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TT
     Antigens
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
         (CS (circumsporozoite); artificial T helper cell epitopes as
         immune stimulators for synthetic peptide immunogens)
ΙT
     Immunoglobulins
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
         (E; artificial T helper cell epitopes as immune stimulators
        for synthetic peptide immunogens)
ΙT
     Proteins, specific or class
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
         (VP1; artificial T helper cell epitopes as immune stimulators
        for synthetic peptide immunogens)
IT
     Measles virus
        (antigen; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
ΙT
     Allergy
       Arteriosclerosis
       Epitopes
     Foot-and-mouth disease virus
     Human immunodeficiency virus
     Human immunodeficiency virus 1
     Human immunodeficiency virus 2
     Immunotherapy
     Infection
     Livestock
     Malaria
     Neoplasm
     Pathogen
     Plasmodium falciparum
     Protein sequences
     Rat
     Simian immunodeficiency virus
       Vaccines
     Veterinary medicine
        (artificial T helper cell epitopes as immune stimulators for
        synthetic peptide immunogens)
IΤ
     Antibodies
     RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU
     (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
        (artificial T helper cell epitopes as immune stimulators for
        synthetic peptide immunogens)
     CD4 (antigen)
TΤ
     Haptens
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (artificial T helper cell epitopes as immune stimulators for
        synthetic peptide immunogens)
ΙT
    Antigens
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (autoantigens; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
ŦΤ
    Proteins, specific or class
    RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (cholesterol ester-exchanging; artificial
        T helper cell epitopes as immune stimulators for synthetic
       peptide immunogens)
IT
    Vaccines
        (contraceptive; artificial T helper cell epitopes as immune
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stimulators for synthetic peptide immunogens)
ΙT
     Cardiovascular system
        (disease; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
TT
     Immunity
        (disorder; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
IT
     B cell (lymphocyte)
        (epitope; artificial T helper cell epitopes as
        immune stimulators for synthetic peptide immunogens)
IT
     T cell (lymphocyte)
        (helper cell, epitope; artificial T helper cell
        epitopes as immune stimulators for synthetic peptide
        immunogens)
IT
     Fissurella
        (hemocyanin; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
IT
     Antigens
     RL: BSU (Biological study, unclassified); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (hepatitis B surface; artificial T helper cell epitopes as
        immune stimulators for synthetic peptide immunogens)
IT
     CD4-positive T cell
        (immune response mediated by; artificial T helper cell epitopes
        as immune stimulators for synthetic peptide immunogens)
ΙT
     Castration
        (immuno-; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
IT
     Proteins, specific or class
     RL: BSU (Biological study, unclassified); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (invasins; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
ΙT
     Hemocyanins
     RL: BSU (Biological study, unclassified); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (keyhole limpet; artificial T helper cell
        epitopes as immune stimulators for synthetic peptide
        immunogens)
ΙT
     Antibodies
     RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU
     (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
        (neutralizing; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
IT
     RL: BSU (Biological study, unclassified); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (peptide; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
IT
    Growth, animal
        (promotion; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
IT
     Immunostimulants
        (sequence; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
IT
     Amino acids, biological studies
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (stimulatory; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
ΙT
     Swine
        (taint; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
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IT
     Antigens
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (tumor-assocd.; artificial T helper cell epitopes as immune
        stimulators for synthetic peptide immunogens)
ΙT
     Contraceptives
        (vaccines; artificial T helper cell epitopes as
        immune stimulators for synthetic peptide immunogens)
     9034-40-6, LH-releasing hormone
                                       40958-31-4, Somatostatin (sheep reduced)
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     51110-01-1, Somatostatin
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        (artificial T helper cell epitopes as immune stimulators for
        synthetic peptide immunogens)
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     1999:454264 HCAPLUS
AN
DN
     131:83997
ΤI
     Assay for predicting the angiographic response to LDL cholesterol
     -lowering therapy in patients, and cholesterol ester
     transfer protein gene for the use thereof
     Kuivenhoven, Jan Albert; Kastelein, Johannes Jacobus Pieter
IN
     Academisch Ziekenhuis bij de Universiteit van Amsterdam, Neth.
PA
SO
     PCT Int. Appl., 25 pp.
     CODEN: PIXXD2
DT
     Patent
LA
     English
IC
     ICM C12Q001-68
     ICS C07K014-47
     3-3 (Biochemical Genetics)
CC
     Section cross-reference(s): 1, 13
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         39136 A1 19990901 EP 1998-200022 19980107
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PRAI EP 1998-200022
                        Α
                              19980107
     WO 1999-EP150
                        ŢΑŢ
                              19990106
     The present invention relates to an assay for testing a genetic
AB
     predisposition in patients with coronary artery disease (CAD) to respond
     to LDL cholesterol-lowering therapy. The method comprises
     screening for the presence (B1) or absence (B2) of a TaqI restriction site
     in intron 1 of both alleles of the cholesterol ester
     transfer protein (CETP) gene. A novel
     interaction was revealed between pravastatin treatment for CAD, this
     CETP gene polymorphism, and predicting the progression of coronary
     atherosclerosis. The response to pravastatin with regard to
     coronary atherosclerosis was greatest for homozygotes for B1B1
     while B2B2 homozygotes did not appear to benefit from this treatment.
     Thus, according to the invention, the TaqIB polymorphism of CETP
     is found to be a genetic marker for identifying subjects who will or will
     not exhibit regression of coronary atherosclerosis in response
     to LDL cholesterol-lowering therapy, such as pravastatin.
ST
     therapy coronary atherosclerosis cholesterol
     ester transfer protein gene
IT
     Gene, animal
     RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study,
     unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL
     (Biological study); OCCU (Occurrence); USES (Uses)
        (CETP; assay for predicting the angiog. response to LDL
        cholesterol-lowering therapy in patients, and
        cholesterol ester transfer protein
        gene for the use thereof)
IT
     Primers (nucleic acid)
     RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
        (PCR; assay for predicting the angiog. response to LDL
        cholesterol-lowering therapy in coronary artery disease
        patients, and cholesterol ester transfer
        protein gene for the use thereof)
ΙT
     Genetic polymorphism
        (TaqIB restriction site in intron 1 of CETP gene; assay for
        predicting the angiog. response to LDL cholesterol-lowering
        therapy in coronary artery disease patients, and cholesterol
        ester transfer protein gene for the use
        thereof)
IΤ
     DNA sequences
     PCR (polymerase chain reaction)
     Test kits
        (assay for predicting the angiog. response to LDL cholesterol
        -lowering therapy in coronary artery disease patients, and
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cholesterol ester transfer protein

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gene for the use thereof)
IΤ
     Anticholesteremic agents
     Susceptibility (genetic)
        (assay for predicting the angiog. response to LDL cholesterol
        -lowering therapy in patients, and cholesterol ester
        transfer protein gene for the use thereof)
IT
     Proteins, specific or class
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (cholesterol ester-exchanging, gene;
        assay for predicting the angiog. response to LDL cholesterol
        -lowering therapy in patients, and cholesterol ester
        transfer protein gene for the use thereof)
IT
     Artery, disease
        (coronary; assay for predicting the angiog. response to LDL
        cholesterol-lowering therapy in coronary artery disease
        patients, and cholesterol ester transfer
        protein gene for the use thereof)
ΙT
     Genetic markers
        (use of CETP gene as; assay for predicting the angiog.
        response to LDL cholesterol-lowering therapy in coronary
        artery disease patients, and cholesterol ester
        transfer protein gene for the use thereof)
     81093-37-0, Pravastatin
TΤ
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (assay for predicting the angiog. response to LDL cholesterol
        -lowering therapy in coronary artery disease patients, and
        cholesterol ester transfer protein
        gene for the use thereof)
     140027-68-5, DNA (human CETP gene fragment)
TΤ
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     unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL
     (Biological study); OCCU (Occurrence); USES (Uses)
        (nucleotide sequence; assay for predicting the angiog. response to LDL
        cholesterol-lowering therapy in coronary artery disease
        patients, and cholesterol ester transfer
        protein gene for the use thereof)
ΙT
     229482-34-2
                   229482-35-3
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        (primer; assay for predicting the angiog. response to LDL
        cholesterol-lowering therapy in coronary artery disease
        patients, and cholesterol ester transfer
        protein gene for the use thereof)
L42 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2002 ACS
    1999:282118 HCAPLUS
AN
DN
     130:310673
TI
     Xenogeneic cholesteryl ester transfer
     protein (CETP) for modulation of CETP activity
     in treatment of atherosclerosis
IN
     Rittershaus, Charles W.; Thomas, Lawrence J.
     Avant Immunotherapeutics, Inc., USA
PΑ
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     PCT Int. Appl., 62 pp.
     CODEN: PIXXD2
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     English
     ICM A61K039-00
ICS A61K039-39; A61K048-00; C07K014-47
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     15-2 (Immunochemistry)
     Section cross-reference(s): 3, 63
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                            19990429
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             NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,
             UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
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                                                             19981020
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                                           JP 2000-516697
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PRAI US 1997-954643
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     WO 1998-US22145
                       W
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AB
     Methods for modulating cholesteryl ester
     transfer protein (CETP) activity and the
     plasma levels of lipoproteins involved in heart disease involve
     administration of a non-endogenous CETP or a plasmid-based
     vaccine for expression of such non-endogenous CETP to
     elicit prodn. in a mammal of antibodies that recognize (bind to) the
     mammal's native (endogenous) CETP.
ST
     cholesteryl ester transfer protein
     antiatherosclerotic sequence
ΙT
     Promoter (genetic element)
     RL: PEP (Physical, engineering or chemical process); PROC (Process)
        (Cytomegalovirus immediate early promoter/enhancer; xenogeneic
        cholesteryl ester transfer protein
        (CETP) for modulation of CETP activity in treatment
        of atherosclerosis)
ΙT
     Immunostimulants
        (adjuvants, Freund's; xenogeneic cholesteryl ester
        transfer protein (CETP) for modulation of
        CETP activity in treatment of atherosclerosis)
ΙT
     Immunostimulants
        (adjuvants, Ribi; xenogeneic cholesteryl ester
        transfer protein (CETP) for modulation of
        CETP activity in treatment of atherosclerosis)
IT
     Immunostimulants
        (adjuvants; xenogeneic cholesteryl ester
        transfer protein (CETP) for modulation of
        CETP activity in treatment of atherosclerosis)
ΙT
     Antiarteriosclerotics
        (antiatherosclerotics; xenogeneic cholestery)
        ester transfer protein (CETP) for
       modulation of CETP activity in treatment of
        atherosclerosis)
TΤ
     Antibodies
     RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU
     (Biological study, unclassified); BIOL (Biological study); PREP
     (Preparation); PROC (Process)
        (cholesteryl ester transfer
       protein-binding; xenogeneic cholesteryl ester
        transfer protein (CETP) for modulation of
       CETP activity in treatment of atherosclerosis)
TΤ
     Transport proteins
     RL: BAC (Biological activity or effector, except adverse); BPN
     (Biosynthetic preparation); BSU (Biological study, unclassified); PRP
     (Properties); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (cholesteryl ester; xenogeneic cholesteryl
        ester transfer protein (CETP) for
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modulation of CETP activity in treatment of
        atherosclerosis)
IT
     Cytomegalovirus
         (immediate early promoter/enhancer of; xenogeneic cholestery)
        ester transfer protein (CETP) for
        modulation of CETP activity in treatment of
        atherosclerosis)
ΙT
     Gene, microbial
     RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU
     (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
        (immediate early, promoter of; xenogeneic cholestery)
        ester transfer protein (CETP) for
        modulation of CETP activity in treatment of
        atherosclerosis)
IT
     Lipoproteins
     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
        (low-d., cholesterol conjugates, metab. of; xenogeneic
        cholesteryl ester transfer protein
        (CETP) for modulation of CETP activity in treatment
        of atherosclerosis)
ŦΨ
     Anticholesteremic agents
     Genetic polymorphism
     Immunostimulants
     Monkey
     Mouse
     Plasmid vectors
       Protein sequences
     Rabbit
       Vaccines
     cDNA sequences
        (xenogeneic cholesteryl ester transfer
        protein (CETP) for modulation of CETP
        activity in treatment of atherosclerosis)
TΤ
     223577-55-7P
     RL: BAC (Biological activity or effector, except adverse); BOC (Biological
     occurrence); BPN (Biosynthetic preparation); BSU (Biological study,
     unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological
     study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
        (amino acid sequence; xenogeneic cholesteryl ester
        transfer protein (CETP) for modulation of
        CETP activity in treatment of atherosclerosis)
ΙT
     57-88-5D, Cholesterol, LDL conjugates
     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
        (metab. of; xenogeneic cholesteryl ester
        transfer protein (CETP) for modulation of
        CETP activity in treatment of atherosclerosis)
ΙT
     81669-55-8P, Cholesteryl ester transferase
     RL: BAC (Biological activity or effector, except adverse); BPN
     (Biosynthetic preparation); BSU (Biological study, unclassified); PRP
     (Properties); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (xenogeneic cholesteryl ester transfer
        protein (CETP) for modulation of CETP
        activity in treatment of atherosclerosis)
RE.CNT
              THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Hesler, C; J BIOL CHEM 1987, V262(5), P2275 HCAPLUS
(2) Hesler, C; J BIOL CHEM 1988, V263(11), P5020 HCAPLUS
(3) Immune Response Corp Inc; WO 9639168 A 1996 HCAPLUS
(4) Smith, A; MEDICAL SCIENCE RESEARCH 1993, V21(24), P911 HCAPLUS
(5) T Cell Sciences Inc; WO 9634888 A 1996 HCAPLUS
```

```
(6) T Cell Sciences Inc; WO 9741227 A 1997 HCAPLUS
(7) Thomas, L; FASEB JOURNAL 1998, V12(4), Pa310
     ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2002 ACS
     1999:223038 HCAPLUS
AN
DN
     130:250711
ΤI
     Vector vaccines against cholesterol ester
     transfer protein for the treatment of
     atherosclerosis
     Needleman, Philip; Glenn, Kevin
IN
     Monsanto Company, USA
PA
     PCT Int. Appl., 99 pp.
SO
     CODEN: PIXXD2
חיים
     Patent
LA
     English
     ICM C12N015-12
IC
     ICS A61K048-00
CC
     14-5 (Mammalian Pathological Biochemistry)
FAN.CNT 1
                                               APPLICATION NO.
                        KIND DATE
     PATENT NO.
                                             WO 1998-US19366 19980917
     WO 9915655
                        A1
                              19990401
PΙ
         W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
              FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
              CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                               CA 1998-2302778 19980917
     CA 2302778
                        AA 19990401
                                               AU 1998-92317
                                                                  19980917
                              19990412
     AU 9892317
                         A1
                                              EP 1998-944877
                                                                19980917
                              20000705
     EP 1015584
                         A1
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI
                                               JP 2000-512947 19980917
                              20020611
     JP 2002516656
                         T2
PRAI US 1997-934367
                              19970919
                         Α
     WO 1998-US19366
                              19980917
                         W
     Expression vectors for manuf. of antigenic fragments of
AΒ
     cholesteryl ester transfer protein (
     CETP) that can be used to inactivate the protein are
     described. The protein plays a key role in the transfer
     of cholesterol from HDL to LDL and VLDL and inhibition of
     CETP synthesis can be used to prevent LDL and VLDL formation in
     the prophylaxis of atherosclerosis. Immunogens, inocula, DNA
     segments, and recombinant DNA mol. vectors useful for carrying out the
     invention are also disclosed. The use of antigenic fragments of rabbit
     CETP to raise autoantibodies in rabbits is demonstrated.
     Antibodies to three such peptides cross-reacted with human CETP.
     Rabbits vaccinated with these antigens showed a .apprx.10%
     increase in serum HDL. Antigens were manufd. as fusion proteins
     with hepatitis B core antigens in Escherichia coli, in a baculovirus
     system, and in mammalian cell culture.
ST
     cholesteryl ester transfer protein
     antigen vaccine atherosclerosis; autoantibody
     cholesteryl ester transfer protein
     atherosclerosis HDL
ΙT
     Antibodies
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (autoantibodies, to cholesteryl ester
        transfer protein; vector vaccines against
        cholesterol ester transfer protein
         for treatment of atherosclerosis)
ΙT
     Proteins, specific or class
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RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (cholesterol ester-exchanging; vector
        vaccines against cholesterol ester
        transfer protein for treatment of
        atherosclerosis)
ΤT
     Toxoids
     RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL
     (Biological study); PREP (Preparation); USES (Uses)
        (diphtheria, fusion proteins with cholestery)
        ester transfer protein, as antigens; vector
        vaccines against cholesterol ester
        transfer protein for treatment of
        atherosclerosis)
TT
     Antigens
     RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL
     (Biological study); PREP (Preparation); USES (Uses)
        (hepatitis B core, fusion proteins with cholestery)
        ester transfer protein, as antigens; vector
       vaccines against cholesterol ester
        transfer protein for treatment of
        atherosclerosis)
IT
     Lipoproteins
     RL: ADV (Adverse effect, including toxicity); BPR (Biological process);
     BSU (Biological study, unclassified); BIOL (Biological study); PROC
     (Process)
        (high-d., prevention of cholesterol ester
        transfer from; vector vaccines against
        cholesterol ester transfer protein
        for treatment of atherosclerosis)
TT
     Lipoproteins
     RL: ADV (Adverse effect, including toxicity); BPR (Biological process);
     BSU (Biological study, unclassified); BIOL (Biological study); PROC
     (Process)
        (low-d., prevention of cholesterol ester
        transfer to; vector vaccines against
        cholesterol ester transfer protein
        for treatment of atherosclerosis)
TΤ
     Plasmid vectors
        (pCMV-SPORT-HBcAg/CETP/HBcAg, vector vaccine
        against cholesteryl ester transfer
       protein; vector vaccines against cholesterol
        ester transfer protein for treatment of
        atherosclerosis)
     Plasmid vectors
ТТ
        (pcDNAI/AMP-HBcAg/CETP/HBcAg-1, vector vaccine
        against cholesteryl ester transfer
       protein; vector vaccines against cholesterol
        ester transfer protein for treatment of
        atherosclerosis)
ΙT
     Plasmid vectors
        (pcDNAI/AMP-HBcAg/CETP/HBcAg-2, vector vaccine
        against cholesteryl ester transfer
        protein; vector vaccines against cholesterol
        ester transfer protein for treatment of
        atherosclerosis)
IT
        (synthetic; vector vaccines against cholesterol
        ester transfer protein for treatment of
        atherosclerosis)
TΤ
     Toxoids
     RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL
     (Biological study); PREP (Preparation); USES (Uses)
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(tetanus, fusion proteins with cholestery)
        ester transfer protein, as antigens; vector
        vaccines against cholesterol ester
        transfer protein for treatment of
        atherosclerosis)
ΙT
     Atherosclerosis
        (vector vaccines against cholesterol ester
        transfer protein for treatment of
        atherosclerosis)
ΙT
     Lipoproteins
     RL: ADV (Adverse effect, including toxicity); BPR (Biological process);
     BSU (Biological study, unclassified); BIOL (Biological study); PROC
        (very-low-d., prevention of cholesterol ester
        transfer to; vector vaccines against
        cholesterol ester transfer protein
        for treatment of atherosclerosis)
IΤ
     123202-49-3
                   221550-30-7
     RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES
     (Uses)
        (antigenic peptide of cholesteryl ester
        transfer protein; vector vaccines against
        cholesterol ester transfer protein
        for treatment of atherosclerosis)
IT
     221550-31-8
                   221550-32-9
                                 221550-33-0
                                               221550-34-1
                                                              221550-35-2
     221550-37-4
     RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES
     (Uses)
        (antigenic peptide of rabbit cholesteryl ester
        transfer protein; vector vaccines against
        cholesterol ester transfer protein
        for treatment of atherosclerosis)
              THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
       10
RE.CNT
RE
(1) Evans, E; Journal of Lipid Research 1994, P1634
(2) Gaynor, E; Atherosclerosis 1994, V110, P101
(3) Melchior, E; Journal of Biological Chemistry 1995, V270, P21068
(4) Melchior, E; Trends in Cardiovascular Medicine 1995, V5, P83
(5) O'Brien, C; Molecular Medicine Today 1997, V3(6), P231 MEDLINE
(6) Schodel, E; Journal of Virology 1992, V66, P106
(7) Sugano, E; Journal of Biological Chemistry 1996, V271, P19080
(8) T Cell Sciences Inc; WO 9634888 A 1996 HCAPLUS
(9) Thomas, L; WO 9741227 A 1997 HCAPLUS
(10) Thomas, L; Journal of Allergy and Clinical Immunology 1997, V99(1)
L42 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2002 ACS
AN
     1999:127088 HCAPLUS
DN
     130:192774
     Cholesterylester transfer protein (CETP)-mRNA as target molecule
ΤI
     in therapy of atherosclerosis, transcription constructs and drug
IN
     Budzinksi, Ralph; Krist, Bernd; Mark, Michael; Mueller, Peter
PA
     Boehringer Ingelheim Pharma K.-G., Germany
SO
     Ger. Offen., 24 pp.
     CODEN: GWXXBX
DΤ
     Patent
LA
     German
IC
     ICM C12N015-11
     ICS C12N015-54; C07H021-00; C12Q001-68; A61K048-00
CC
     3-3 (Biochemical Genetics)
     Section cross-reference(s): 1
FAN.CNT 1
     PATENT NO.
                      KIND DATE
                                           APPLICATION NO. DATE
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     DE 19731609
The:
                       A1
PΙ
                            19990218
                                          DE 1997-19731609 19970723
                      C2 19991230
     The invention concerns the cholesteryl ester
     transfer protein-mRNA (CETP-mRNA) as target
     mol. for gene therapy; transcription constructs of the human CETP
     gene contg. 5'-non-translating regions with regulatory sequences; the
     usage of the transcription constructs for mol. recognition in high
     throughput screening of drugs for atherosclerosis therapy via
     the suppression of CETP gene expression; and therapeutic
     antisense oligonucleotides that inhibit the translation of CETP.
     CETP expression can be inhibited by antisense nucleotides
     including 3'-dideoxynucleosides, phosphorothicate, methoxy and
     methylphosphonate derivs; or non nucleotide mols. Drug screening is
     performed in a cell free system contg. reticulocyte lysate, aminoacids,
     radiolabeled leucin, synthesized CETP-mRNA and the antisense
     nucleotide; after incubation the presence of radiolabeled CETP
     is measured using monoclonal antibodies to CETP. Similar
     screening is performed when hepatoma cells are incubated with the
     therapeutic oligonucleotide; the CETP expression is measured
     using RIA. Binding of the prospective drug substance to the nucleic acid
     can also be tested in a BiaCore system using surface plasmon resonance
ST
     cholesteryl ester transfer protein
     CETP mRNA gene therapy atherosclerosis
     Proteins, specific or class
TΤ
     RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (cholesterol ester-exchanging;
        cholesteryl ester-transfer protein
        -mRNA (CETP-mRNA) as target mol. in therapy of
        atherosclerosis, transcription constructs and drug screening)
ΤТ
     Atherosclerosis
     Drug screening
     Gene therapy
     Molecular recognition
     Transcriptional regulation
        (cholesteryl ester-transfer
        protein-mRNA (CETP-mRNA) as target mol. in therapy of
        atherosclerosis, transcription constructs and drug screening)
IT
     Antisense oligonucleotides
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
        (cholesteryl ester-transfer
       protein-mRNA (CETP-mRNA) as target mol. in therapy of
       atherosclerosis, transcription constructs and drug screening)
IT
     RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (cholesteryl ester-transfer
       protein-mRNA (CETP-mRNA) as target mol. in therapy of
        atherosclerosis, transcription constructs and drug screening)
IT
     Translation, genetic
        (in reticulocyte lysates, for screening of antisense mRNAs;
        cholesteryl ester-transfer protein
        -mRNA (CETP-mRNA) as target mol. in therapy of
        atherosclerosis, transcription constructs and drug screening)
TΤ
    Animal tissue culture
        (mammalian; cholesteryl ester-transfer
       protein-mRNA (CETP-mRNA) as target mol. in therapy of
        atherosclerosis, transcription constructs and drug screening)
IT
    Antibodies
     RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
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(monoclonal, for quantifying CETP prodn.; cholesteryl
        ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis,
        transcription constructs and drug screening)
ΙT
     Immunoassay
         (radioimmunoassay, for quantifying CETP prodn.;
        cholesteryl ester-transfer protein
        -mRNA (CETP-mRNA) as target mol. in therapy of
        atherosclerosis, transcription constructs and drug screening)
ΙT
     Surface plasmon
        (resonance for detecting mol. recognition; cholestery)
        ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis,
        transcription constructs and drug screening)
IT
     220791-39-9
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
        (antisense oligonucleotide binding to the 5'-non-translating region of
        the transcription construct at -11 to 4 position; cholesteryl
        ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
TТ
     220791-30-0
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
        (antisense oligonucleotide binding to the 5'-non-translating region of
        the transcription construct at -18 to 2 position; cholesteryl
        ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
     220791-32-2
ΙT
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
        (antisense oligonucleotide binding to the 5'-non-translating region of
        the transcription construct at -23 to 15 position; cholesteryl
        ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
IT
     220791-37-7
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
        (antisense oligonucleotide binding to the 5'-non-translating region of
        the transcription construct at -24 to -13 position; cholesteryl
       ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
IT
     220791-45-7
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
        (antisense oligonucleotide binding to the 5'-non-translating region of
       the transcription construct at -26 to -12 position; cholesteryl
       ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
IT
    220791-28-6
    RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
    use); BIOL (Biological study); USES (Uses)
        (antisense oligonucleotide binding to the 5'-non-translating region of
       the transcription construct at -26 to 3 position; cholesteryl
       ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
ΙT
    220791-44-6
    RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
    use); BIOL (Biological study); USES (Uses)
        (antisense oligonucleotide binding to the 5'-non-translating region of
       the transcription construct at 1584 to 1594 position;
       cholesteryl ester-transfer protein
       -mRNA (CETP-mRNA) as target mol. in therapy of
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atherosclerosis)
IT
     220791-41-3
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
         (antisense oligonucleotide binding to the 5'-non-translating region of
        the transcription construct at 168 to 183 position; cholesteryl
        ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
     220791-36-6
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
         (antisense oligonucleotide binding to the 5'-non-translating region of
        the transcription construct at 568 to 584 position; cholesteryl
        ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
IΤ
     220735-58-0
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
        (antisense oligonucleotide binding to the 5'-non-translating region of
        the transcription construct at 64 to 71 position; cholesteryl
        ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
ΙT
     220791-43-5
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
        (antisense oligonucleotide binding to the 5'-non-translating region of
        the transcription construct at 743 to 760 position; cholesteryl
        ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
TΨ
     220791-46-8
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
        (antisense oligonucleotide binding to the 5'-non-translating region of
        the transcription construct at 753 to 768 position; cholesteryl
        ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
IT
     220791-40-2
     RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); USES (Uses)
        (antisense oligonucleotide binding to the 5'-non-translating region of
        the transcription construct at 9 to 24 position; cholestervl
        ester-transfer protein-mRNA (CETP
        -mRNA) as target mol. in therapy of atherosclerosis)
ΙT
     220791-48-0
                                220791-50-4 220791-51-5
                   220791-49-1
     RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological
     study); USES (Uses)
        (nucleotide sequence, 5'-non-translating region of human CETP
        ; cholesteryl ester-transfer
       protein-mRNA (CETP-mRNA) as target mol. in therapy of
        atherosclerosis, transcription constructs and drug screening)
IT
     220791-47-9
     RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological
     study); USES (Uses)
        (nucleotide sequence, coding for human CETP;
        cholesteryl ester-transfer protein
        -mRNA (CETP-mRNA) as target mol. in therapy of
        atherosclerosis, transcription constructs and drug screening)
L42 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2002 ACS
AN
     1997:740308 HCAPLUS
DN
     128:10315
ΤI
     Plasmid-based vaccine for treating atherosclerosis
IN
     Thomas, Lawrence J.
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T Cell Sciences, Inc., USA; Thomas, Lawrence J.
PA
     PCT Int. Appl., 66 pp.
SO
     CODEN: PIXXD2
תח
     Patent
     English
LA
     ICM C12N015-12
IC
     ICS A61K031-70
CC
     1-7 (Pharmacology)
     Section cross-reference(s): 3, 14, 63
FAN.CNT 2
                       KIND DATE
                                              APPLICATION NO. DATE
     PATENT NO.
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                                           WO 1997-US7294 19970501
     WO 9741227
                      A1
                             19971106
PΙ
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             BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB,
             GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN,
             ML, MR, NE, SN, TD, TG
                                             CA 1997-2250428 19970501
                        AA 19971106
     CA 2250428
                                             AU 1997-29946
                             19971119
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     AU 9729946
                        Α1
                              20000713
                        В2
     AU 721729
                                             EP 1997-924549
                                                              19970501
                            19990512
     EP 914427
                        A1
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             IE, FI
                                              JP 1997-539202
                                                                19970501
     JP 2001508760
                       Т2
                             20010703
                       B1 20010904
                                             US 1998-171969
                                                               19981002
     US 6284533
                            19960501
PRAI US 1996-640713
                       Α
     US 1997-802967 A2 19970221
                      P
     US 1996-52983P
                             19960501
     WO 1997-US7294
                       W
                             19970501
     A plasmid-based vaccine is provided that is based on the
AΒ
     combination of DNA segments coding for one or more B cell epitopes
     of CETP and one or more broad range helper T cell
     epitopes. Administration of the plasmids as a vaccine
     to a vertebrate subject provides an immune response to the subject's
     endogenous CETP and modulation of CETP activity,
     leading to prevention or reversal of various manifestations of heart
     disease. The vaccines provide an advantageous strategy for the
     prevention or treatment of atherosclerosis.
ST
     atherosclerosis plasmid vaccine treatment sequence
     CETP; cholesteryl ester transfer
     protein vaccine atherosclerosis;
     epitope CETP fusion protein vaccine
     atherosclerosis
ΙT
     B cell (lymphocyte)
        (CETP B-cell epitope; plasmid vaccine for
        atherosclerosis treatment)
ΙT
     Protein motifs
        (CETP neutral lipid binding domain or neutral lipid transfer
        domain; plasmid vaccine for atherosclerosis
        treatment)
IT
     Fissurella
        (Keyhole limpet hemocyanin; plasmid
        vaccine for atherosclerosis treatment)
     Hemocyanins
IT
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (Keyhole limpethemocyanin; helper T cell epitope derived
        from; plasmid vaccine for atherosclerosis
        treatment)
TT
     Antiarteriosclerotics
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(antiatherosclerotics, vaccine as; plasmid
        vaccine for atherosclerosis treatment)
ΙT
     Antibodies
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); MFM (Metabolic formation); BIOL (Biological study);
     FORM (Formation, nonpreparative)
        (autoantibodies, CETP induces formation of autoantibodies
        which inhibit CETP activity; plasmid vaccine for
        atherosclerosis treatment)
     Lipids, biological studies RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU
ΙT
     (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
        (blood, CETP domains for binding and transfer of; plasmid
        vaccine for atherosclerosis treatment)
IT
     Proteins, specific or class
    RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU
     (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological
     study); PREP (Preparation); PROC (Process); USES (Uses)
        (cholesterol ester-exchanging,
        CETP induces formation of autoantibodies which inhibit
        CETP activity; plasmid vaccine for
        atherosclerosis treatment)
IT
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (diphtheria, helper T cell epitope derived from;
        plasmid vaccine for atherosclerosis treatment)
IT
    Cardiovascular system
        (disease, method for treatment of; plasmid vaccine for
        atherosclerosis treatment)
IT
    Tuberculin
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (helper T cell epitope derived from; plasmid vaccine
        for atherosclerosis treatment)
IT
    Antigens
    RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL
     (Biological study); PREP (Preparation); USES (Uses)
        (helper T cell epitope; plasmid vaccine for
       atherosclerosis treatment)
IT
    T cell (lymphocyte)
        (helper cell, vaccine comprising CETP B cell
        epitope and broad range helper T cell epitopes;
       plasmid vaccine for atherosclerosis treatment)
ΙT
    RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU
     (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
        (high-d., method to reducing circulating ratio of HDL and LDL and VLDL
        to cholesterol; plasmid vaccine for atherosclerosis
        treatment)
ፐጥ
    Lipoproteins
    RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU
     (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
        (low-d., method to reducing circulating ratio of HDL and LDL and VLDL
        to cholesterol; plasmid vaccine for atherosclerosis
       treatment)
    Animal cell
IT
        (mammalian, promoter for transcription in mammalian cells; plasmid
        vaccine for atherosclerosis treatment)
    Heart, disease
TT
        (method for treatment of; plasmid vaccine for
        atherosclerosis treatment)
IT
    Salivary gland
        (parotid, diseases, mumps, vaccines; helper T cell
        epitope derived from; plasmid vaccine for
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atherosclerosis treatment)
IT
     Salivary gland
        (parotid, mumps, vaccines; helper T cell
        epitope derived from; plasmid vaccine for
        atherosclerosis treatment)
IT
     Atherosclerosis
     Plasmid vectors
     Protein sequences
     Vertebrate (Vertebrata)
     cDNA sequences
        (plasmid vaccine for atherosclerosis treatment)
IT
     Transcription, genetic
        (promoter for transcription in mammalian cells; plasmid vaccine
        for atherosclerosis treatment)
ፐጥ
     Promoter (genetic element)
     RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
     (Uses)
        (promoter for transcription in mammalian cells; plasmid vaccine
        for atherosclerosis treatment)
тΨ
     Vaccines
     RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (synthetic, rubella and mumps and measles; helper T cell
        epitope derived from; plasmid vaccine for
        atherosclerosis treatment)
TТ
     Poroide
     RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES
        (tetanus, helper T cell epitope derived from;
        plasmid vaccine for atherosclerosis treatment)
IT
     Epitopes
        (vaccine comprising CETP B cell epitope
        and broad range helper T cell epitopes; plasmid
        vaccine for atherosclerosis treatment)
     Fusion proteins (chimeric proteins)
     RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL
     (Biological study); PREP (Preparation); USES (Uses)
        (vaccine comprising CETP B cell epitope
        and broad range helper T cell epitopes; plasmid
        vaccine for atherosclerosis treatment)
ΙT
        (vaccine; helper T cell epitope derived from;
        plasmid vaccine for atherosclerosis treatment)
ΙT
     Rubella
        (vaccines; helper T cell epitope derived from;
        plasmid vaccine for atherosclerosis treatment)
     Lipoproteins
TΤ
     RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU
     (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
        (very-low-d., method to reducing circulating ratio of HDL and LDL and
        VLDL to cholesterol; plasmid vaccine for
        atherosclerosis treatment)
     111274-16-9P, Cholesteryl ester
TΤ
     transfer protein (human clone .lambda.CETP
     .10/.lambda.CETP.307) 199062-23-2P
     199062-31-2P
     RL: BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); PREP (Preparation); USES (Uses)
        (amino acid sequence; plasmid vaccine for
        atherosclerosis treatment)
ΙT
     199062-11-8 199062-33-4
     RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES
     (Uses)
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(amino acid sequence; plasmid vaccine for
        atherosclerosis treatment)
IT
     57-88-5, Cholesterol, biological studies
     RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU
     (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
        (method to reducing circulating ratio of HDL and LDL and VLDL to
        cholesterol; plasmid vaccine for atherosclerosis
        treatment)
ΙT
     111274-10-3P, DNA (human clone .lambda.CETP.10/.lambda.
     CETP.307 cholesterol ester-exchanging
     protein cDNA)
                     199063-45-1P
                                  199063-46-2P 199063-97-3P
     199063-98-4P 199063-99-5P
     RL: BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic
     use); BIOL (Biological study); PREP (Preparation); USES (Uses)
        (nucleotide sequence; plasmid vaccine for
        atherosclerosis treatment)
L42 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2002 ACS
AN
     1997:97190 HCAPLUS
DN
     126:99323
TI
     Immunostimulation method for increasing HDL cholesterol level
     using cholesterol ester transfer
    protein (CETP) or fragments thereof
    Kwoh, Deborah Y.; Brostoff, Steven W.; Carlo, Dennis J.
ΙN
    The Immune Response Corporation, USA
PA
     PCT Int. Appl., 25 pp.
SO
    CODEN: PIXXD2
DT
    Patent
LA
    English
IC
    ICM A61K038-17
    1-10 (Pharmacology)
CC
FAN.CNT 1
    PATENT NO.
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                                          APPLICATION NO. DATE
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    WO 9639168
                     A1 19961212
                                         WO 1996-US9143 19960605 <--
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            LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD,
            SE, SG
        RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR,
            IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN
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                            19961224
                                          AU 1996-60912
                                                           19960605 <--
    AU 715410
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                      B2
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                                          EP 1996-918201 19960605 <--
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            IE, FI
    JP 11507910
                      Т2
                            19990713
                                          JP 1996-501533
                                                           19960605 <--
PRAI US 1995-482454
                            19950606 <--
    WO 1996-US9143
                           19960605
AΒ
    A method is provided for increasing HDL cholesterol in a mammal by
    stimulating an immune response that inhibits the function of CETP
       Such an immune response can be induced by immunizing with CETP
    or fragments of CETP (together termed CETP peptides)
    which contain an epitope capable of stimulating such a response.
    The peptides can be conjugated to a carrier, e.g. KLH or
    ovalbumin, in order to increase immunogenicity. Adjuvants can also be
    administered.
ST
    CETP peptide immunostimulation HDL cholesterol
    Antigens
IT
    Peptides, biological studies
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (CETP immunogenic epitopes; immunostimulation
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method for increasing HDL cholesterol with
        cholesterol ester transfer protein
        (CETP) or fragments)
IΤ
     Antiarteriosclerotics
        (antiatherosclerotics; immunostimulation method for increasing HDL
        cholesterol with cholesterol ester
        transfer protein (CETP) or fragments)
IΤ
     Proteins, specific or class
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (cholesterol ester-exchanging,
        CETP immunogenic epitope; immunostimulation method
        for increasing HDL cholesterol with cholesterol
        ester transfer protein (CETP) or
        fragments)
ΙT
     Hemocyanins
     Ovalbumin
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (conjugates, with CETP peptides; immunostimulation method for
        increasing HDL cholesterol with cholesterol
        ester transfer protein (CETP) or
        fragments)
ΙT
     Toxoids
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
        (diphtheria, conjugates with CETP peptides;
        immunostimulation method for increasing HDL cholesterol with
        cholesterol ester transfer protein
        (CETP) or fragments)
IT
     B cell (lymphocyte)
        (epitope; immunostimulation method for increasing HDL
        cholesterol with cholesterol ester
        transfer protein (CETP) or fragments)
TΨ
     Lipoproteins
     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
        (high-d.; immunostimulation method for increasing HDL
        cholesterol with cholesterol ester
        transfer protein (CETP) or fragments)
IΤ
     Immunostimulants
        (immunostimulation method for increasing HDL cholesterol with
        cholesterol ester transfer protein
        (CETP) or fragments)
ΙT
     Toxoids
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
        (tetanus, conjugates with CETP peptides;
        immunostimulation method for increasing HDL cholesterol with
        cholesterol ester transfer protein
        (CETP) or fragments)
IΤ
    Antibodies
     RL: BPN (Biosynthetic preparation); THU (Therapeutic use); BIOL
     (Biological study); PREP (Preparation); USES (Uses)
        (to CETP; immunostimulation method for increasing HDL
        cholesterol with cholesterol ester
        transfer protein (CETP) or fragments)
TT
     155381-67-2D, conjugates
    RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
        (immunostimulation method for increasing HDL cholesterol with
        cholesterol ester transfer protein
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(CETP) or fragments)
     57-88-5, Cholesterol, biological studies
IT
     RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological
     study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC
     (Process)
        (immunostimulation method for increasing HDL cholesterol with
        cholesterol ester transfer protein
        (CETP) or fragments)
                  125377-61-9D, conjugates
                                              155381-67-2
                                                            186002-92-6
IT
     125377-61-9
     186002-92-6D, conjugates
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (immunostimulation method for increasing HDL cholesterol with
        cholesterol ester transfer protein
        (CETP) or fragments)
    ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2002 ACS
L42
AN
    1997:12606 HCAPLUS
DN
    126:46315
ΤI
    Modulation of cholesteryl ester transfer
    protein (CETP) activity
    Rittershaus, Charles W.; Thomas, Lawrence J.
IN
    T Cell Sciences, Inc., USA; Rittershaus, Charles W.; Thomas, Lawrence J.
PA
    PCT Int. Appl., 81 pp.
SO
    CODEN: PIXXD2
DT
    Patent
LA
    English
IC
     ICM C07K014-775
     ICS C07K014-47; A61K038-17; A61K039-00
CC
    15-2 (Immunochemistry)
    Section cross-reference(s): 14
FAN.CNT 1
                                           APPLICATION NO. DATE
                    KIND DATE
    PATENT NO.
                     ____
    WO 9634888
                            19961107
                     A1
                                         WO 1996-US6147
                                                            19960501 <--
PT
        W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE,
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            LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,
             SI, SK
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            MR, NE, SN, TD, TG
                                           CA 1996-2219795 19960501 <--
    CA 2219795
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                            19961107
    AU 9656360
                       A1
                            19961121
                                           AU 1996-56360
                                                            19960501 <--
                            19990722
    AU 707752
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                                                            19960501 <--
                            19980311
                                           EP 1996-913320
    EP 827509
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            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE. FI
                                                            19960501 <--
                                           JP 1996-533487
     JP 11504635
                       Т2
                            19990427
                       A1
                            20020411
                                           US 2001-943548
                                                            20010830 <--
    US 2002042364
                                     <--
PRAI US 1995-432483
                       Α
                            19950501
    WO 1996-US6147
                       W
                            19960501
     US 1997-945289
                       A3
                           19971017
     This invention relates to peptides comprising a helper T cell
AB
     epitope portion and a B cell epitope portion for
     eliciting an immune response against endogenous cholesteryl
     ester transfer protein (CETP)
     activity, to prevent or treat cardiovascular disease, such as
     atherosclerosis. The T helper T cell epitope may be
     derived from an antigenic peptide selected from the group consisting
     tetanus toxoid, diphtheria toxoid,
     pertussis vaccine, Bacile Calmette-
     Guerin, polio vaccine, measles vaccine
     , mumps vaccine, rubella vaccine, purified
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protein deriv. of tuberculin, keyhole
     limpet hemocyanin, hsp70 and combination thereof.
     cholesteryl ester transfer protein
ST
     antigen vaccine; atherosclerosis helper T cell
     epitope vaccine
     Heat-shock proteins
TT
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (HSP 70; peptide vaccine comprising helper T cell
        epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
     Proteins, specific or class
ΙT
     RL: ADV (Adverse effect, including toxicity); BSU (Biological study,
     unclassified); BIOL (Biological study)
        (cholesterol ester-exchanging; peptide
        vaccine comprising helper T cell epitope and B cell
        epitope that inhibits cholesteryl ester
        transfer protein activity for treating
        atherosclerosis)
IΤ
     Toxoids
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (diphtheria; peptide vaccine comprising helper T
        cell epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
     Cardiovascular system
IT
        (disease; peptide vaccine comprising helper T cell
        epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
TT
     B cell (lymphocyte)
        (epitope; peptide vaccine comprising helper T cell
        epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
     T cell (lymphocyte)
IT
        (helper cell, epitope; peptide vaccine comprising
        helper T cell epitope and B cell epitope that
        inhibits cholesteryl ester transfer
        protein activity for treating atherosclerosis)
IT
     Lipoproteins
     RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence);
     BSU (Biological study, unclassified); BIOL (Biological study); OCCU
     (Occurrence)
        (high-d.; peptide vaccine comprising helper T cell
        epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
IT
     Hemocyanins
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (keyhole limpet; peptide vaccine
        comprising helper T cell epitope and B cell epitope
        that inhibits cholesteryl ester transfer
        protein activity for treating atherosclerosis)
TΤ
     RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence);
     BSU (Biological study, unclassified); BIOL (Biological study); OCCU
     (Occurrence)
        (low-d.; peptide vaccine comprising helper T cell
        epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
     Infection
ΙT
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(measles, vaccine; peptide vaccine comprising
        helper T cell epitope and B cell epitope that
        inhibits cholesteryl ester transfer
       protein activity for treating atherosclerosis)
ΙT
    Lipids, biological studies
    RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
        (neutral, binding; peptide vaccine comprising helper T cell
        epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
ΙT
    Salivary gland
        (parotid, diseases, mumps, vaccine; peptide
        vaccine comprising helper T cell epitope and B cell
        epitope that inhibits cholesteryl ester
        transfer protein activity for treating
        atherosclerosis)
ΙT
    Salivary gland
        (parotid, mumps, vaccine; peptide vaccine
        comprising helper T cell epitope and B cell epitope
        that inhibits cholesteryl ester transfer
       protein activity for treating atherosclerosis)
ΙT
    Atherosclerosis
    Hypercholesterolemia
    Mycobacterium BCG
       Protein sequences
        (peptide vaccine comprising helper T cell epitope
        and B cell epitope that inhibits cholesteryl
       ester transfer protein activity for
        treating atherosclerosis)
IT
    Antibodies
    RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (peptide vaccine comprising helper T cell epitope
        and B cell epitope that inhibits cholesteryl
        ester transfer protein activity for
       treating atherosclerosis)
    Vaccines
ΙT
        (peptide; peptide vaccine comprising helper T cell
       epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
TΤ
    Toxoids
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (pertussis; peptide vaccine comprising helper T cell
        epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
ΙT
    Tuberculin
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (protein deriv.; peptide vaccine comprising helper
        T cell epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
ΙT
    Toxoids
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (tetanus; peptide vaccine comprising helper T cell
        epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
TT
    Poliomyelitis
     Rubella
        (vaccine; peptide vaccine comprising helper T cell
        epitope and B cell epitope that inhibits
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cholesteryl ester transfer protein
        activity for treating atherosclerosis)
     Peptides, biological studies
ΙT
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (vaccine; peptide vaccine comprising helper T cell
        epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
IT
     Lipoproteins
     RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence);
     BSU (Biological study, unclassified); BIOL (Biological study); OCCU
     (Occurrence)
        (very-low-d.; peptide vaccine comprising helper T cell
        epitope and B cell epitope that inhibits
        cholesteryl ester transfer protein
        activity for treating atherosclerosis)
     57-88-5, Cholesterol, biological studies
IT
     RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence);
     BSU (Biological study, unclassified); BIOL (Biological study); OCCU
     (Occurrence)
        (peptide vaccine comprising helper T cell epitope
        and B cell epitope that inhibits cholesteryl
        ester transfer protein activity for
        treating atherosclerosis)
     111274-16-9, Protein (human clone .lambda.CETP
TΤ
     .10/.lambda.CETP.307 cholesterol ester-
     exchanging reduced)
     RL: BPR (Biological process); BSU (Biological study, unclassified); PRP
     (Properties); THU (Therapeutic use); BIOL (Biological study); PROC
     (Process); USES (Uses)
        (peptide vaccine comprising helper T cell epitope
        and B cell epitope that inhibits cholesteryl
        ester transfer protein activity for
        treating atherosclerosis)
IT
     80295-45-0, Complement C3d
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (peptide vaccine comprising helper T cell epitope
        and B cell epitope that inhibits cholesteryl
        ester transfer protein activity for
        treating atherosclerosis)
                                 126779-14-4
                                              184882-08-4
                                                              184882-09-5
IT
     119260-99-0
                   123202-49-3
     184882-10-8
                   184882-11-9
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (peptide vaccine comprising helper T cell epitope
        and B cell epitope that inhibits cholesteryl
        ester transfer protein activity for
        treating atherosclerosis)
L42 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2002 ACS
     1995:541414 HCAPLUS
AN
     122:299055
DN
TΤ
     Cholesteryl ester transfer protein
     inhibitor polypeptide, antibodies against the synthetic polypeptide and
     prophylactic and therapeutic anti-atherosclerosis treatments
     Kushwaha, Rampratap S.; McGill, Henry C., Jr.; Kanda, Patrick
IN
     Southwest Foundation for Biomedical Research, USA
PA
SO
     PCT Int. Appl., 47 pp.
     CODEN: PIXXD2
DT
     Patent
     English
LA
     ICM C07K014-435
ICS C07K016-18; A61K038-17
IC
CC
     63-3 (Pharmaceuticals)
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FAN. CNT 2
                     KIND DATE
     PATENT NO.
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                           19950216 WO 1994-US8624
     WO 9504755
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                     A1
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     JP 08502525 T2 19960319
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                     Α
                           19960521
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                                                          19950224 <--
                           19930804 <--
19911219 <--
19940802 <--
PRAI US 1993-102160
     US 1991-811049
     WO 1994-US8624
AΒ
     A polypeptide and analogs thereof inhibit cholesteryl
     ester transfer protein (CETP). An
     anti-atherosclerosis compn. comprises an anti-
     atherosclerosis effective amt. of the polypeptide and a
     pharmaceutically acceptable carrier. An anti-atherosclerosis
     kit comprises in sep. sterile containers at least one unit of the compn.
     contg. the polypeptide, one syringe, and one needle. An antibody has
     specificity for the polypeptide of the invention, the baboon CETP
     4-kDa polypeptide inhibitor, the 1-36 amino acid N-terminal fragment of
     apoC-I, modified apo A-I (mol. wt. 31 kDa), or modified apoE (mol. wt. 41
    kDa). A method of preventing atherosclerosis in a mammal being
     predisposed to that condition comprises administering to the mammal a
    prophylactically effective amt. of the polypeptide of the invention, and a
    method of treating a mammal afflicted with atherosclerosis
     comprises the administration of a therapeutically effective amt. of the
     polypeptide. The peptides consist of the N-terminal 36 residues of baboon
     apoC-I, a synthetic peptide adding an N-terminal Ala-Pro dipeptide, the
    human 38-residue analog, and active fragments and substituted analogs.
    atherosclerosis inhibitor peptide; cholesteryl
ST
    ester transfer protein inhibitor peptide
    Peptides, biological studies
TT
     RL: BAC (Biological activity or effector, except adverse); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (cholesterol ester-exchanging
       protein-inhibiting; cholesteryl ester
       transfer protein inhibitor polypeptide, antibodies
       against the synthetic polypeptide and prophylactic and therapeutic
       anti-atherosclerosis treatments)
IT
        (cholesteryl ester transfer
       protein inhibitor polypeptide, antibodies against the synthetic
       polypeptide and prophylactic and therapeutic anti-
       atherosclerosis treatments)
IT
    Antibodies
    RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (cholesteryl ester transfer
       protein inhibitor polypeptide, antibodies against the synthetic
       polypeptide and prophylactic and therapeutic anti-
       atherosclerosis treatments)
IT
    Protein sequences
        (of cholesteryl ester transfer
       protein inhibitor polypeptide from baboon and human)
IT
    Antiarteriosclerotics
        (antiatherosclerotics, cholesteryl ester
       transfer protein inhibitor polypeptide, antibodies
       against the synthetic polypeptide and prophylactic and therapeutic
```



```
anti-atherosclerosis treatments)
ΙT
    Lipoproteins
     RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
        (apo-, A-I, cholesteryl ester transfer
       protein inhibitor polypeptide, antibodies against the synthetic
        polypeptide and prophylactic and therapeutic anti-
        atherosclerosis treatments)
ΙT
     Lipoproteins
     RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
        (apo-, C-I, cholesteryl ester transfer
       protein inhibitor polypeptide, antibodies against the synthetic
        polypeptide and prophylactic and therapeutic anti-
        atherosclerosis treatments)
IT
     Lipoproteins
     RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
        (apo-, E, cholesteryl ester transfer
       protein inhibitor polypeptide, antibodies against the synthetic
        polypeptide and prophylactic and therapeutic anti-
        atherosclerosis treatments)
IT
     Proteins, specific or class
     RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
        (cholesterol ester-exchanging,
        cholesteryl ester transfer protein
        inhibitor polypeptide, antibodies against the synthetic polypeptide and
        prophylactic and therapeutic anti-atherosclerosis treatments)
ΙT
     150027-05-7 161051-55-4 163062-88-2
     RL: BAC (Biological activity or effector, except adverse); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (cholesteryl ester transfer
       protein inhibitor polypeptide, antibodies against the synthetic
       polypeptide and prophylactic and therapeutic anti-
       atherosclerosis treatments)
L42 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2002 ACS
    1993:552092 HCAPLUS
AN
DN
    119:152092
    Cholesteryl ester transfer protein
ΤI
     (CETP) inhibitor polypeptide, antibodies against the synthetic
    polypeptide, and prophylactic and therapeutic anti-atherosclerosis
    treatments
    Kushwaha, Rampratap; Born, Kathleen; Mcgill, Henry C., Jr.; Kanda,
ΙN
     Patrick; Dunham, Raymond G.
    Southwest Foundation for Biomedical Research, USA
PΑ
    PCT Int. Appl., 46 pp.
SO
    CODEN: PIXXD2
DT
    Patent
LA
    English
     ICM A61K037-00
IC
     ICS A61K037-02; A61K037-64; A61K037-04
CC
     1-8 (Pharmacology)
    Section cross-reference(s): 15
FAN.CNT 2
    PATENT NO.
                                          APPLICATION NO. DATE
                    KIND DATE
                           19930624
                                          WO 1992-US10846 19921215 <--
PΤ
    WO 9311782
                     A1
        RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
                          19941012
     EP 618803
                     A1
                                          EP 1993-901360 19921215 <--
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE
                                                           19940208 <--
                                          US 1994-193515
                           19960430
     US 5512548
                     Α
                                           US 1995-394066 19950224 <--
    US 5519001
                           19960521
                      Α
PRAI US 1991-811049
                           19911219
                                     <--
                           19921215 <--
     WO 1992-US10846
                           19930804 <--
     US 1993-102160
```

		,
14.0		

```
A polypeptide and analogs thereof inhibit CETP. Also disclosed
AΒ
     are methods using the polypeptide of the invention for prevention and
     treatment of atherosclerosis, an anti-atherosclerosis
     compn., and an anti-atherosclerosis kit. An antibody is
     disclosed which has specificity for the polypeptide of the invention, the
     baboon CETP 4 kDa polypeptide inhibitor, the 1-36 apo C-I
     amino-terminal fragment, modified apo A-I (31 kDa mol. wt.), or modified
     apo E (41 kDa mol. wt.). Sequences of polypeptide inhibitors are
     included. Detection of the CETP inhibitor peptide in the plasma
     of baboons with a high HDL1 phenotype is described, as is CETP
     inhibition by various peptide fragments.
     cholesteryl ester transfer protein
     inhibitor peptide; antibody cholesteryl ester
     transfer protein inhibitor
T T
     Antibodies
     RL: BIOL (Biological study)
        (to cholesteryl ester transfer
        protein inhibitor peptides)
ΙT
     Sialoglycoproteins
     KL: BIOL (Biological study)
        (CETP (cholesterol ester-transfer
        protein), peptide inhibitor of)
     Antiarteriosclerotics
ΙT
        (antiatherosclerotics, cholesteryl ester
        transfer protein inhibitor peptides)
ΙT
     Lipoproteins
     RL: BIOL (Biological study)
        (apo-, A-I, modified, antibody specific for cholesteryl
        ester transfer protein inhibitor peptide
        reactive with)
     Lipoproteins
TΤ
     RL: BIOL (Biological study)
        (apo-, C-I, antibody specific for cholesteryl ester
        transfer protein inhibitor peptide reactive with)
IT
     Lipoproteins
     RL: BIOL (Biological study)
        (apo-, E, modified, antibody specific for cholesteryl
        ester transfer protein inhibitor peptide
        reactive with)
IT
     Lipoproteins
     RL: BIOL (Biological study)
        (high-d., 1, cholesteryl ester transfer
        protein inhibitory peptide in baboon with high)
                                 149930-30-3 150027-05-7
     149930-28-9
                   149930-29-0
ΙT
     RL: BIOL (Biological study)
        (cholesteryl ester transfer
        protein inhibitor peptide amino acid sequence)
IT
     150027-05-7D, analogs
     RL: BIOL (Biological study)
        (cholesteryl ester transfer
        protein inhibitor peptides)
L42 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2002 ACS
     1993:36917 HCAPLUS
AN
     118:36917
DN
     Molecular cloning, sequence, and expression of cynomolgus monkey
TΙ
     cholesteryl ester transfer protein.
     Inverse correlation between hepatic cholesteryl ester
     transfer protein mRNA levels and plasma high density
     lipoprotein levels
     Pape, Michael E.; Rehberg, Edward F.; Marotti, Keith R.; Melchior, George
ΑU
```

Upjohn Co., Kalamazoo, MI, 49001, USA

CS

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Arterioscler. Thromb. (1991), 11(6), 1759-71
SO
     CODEN: ARTTE5; ISSN: 1049-8834
DΤ
     Journal
LA
     English
CC
     14-5 (Mammalian Pathological Biochemistry)
     Section cross-reference(s): 3, 6
     A cDNA clone contg. the coding region for cynomolgus monkey
AB
     cholesteryl ester transfer protein (
     CETP) was isolated by the polymerase chain reaction with primers
     based on the human CETP cDNA sequence and cDNA synthesized from
     liver poly (A+) RNA. Anal. of that cDNA indicated that the nucleotide and
     amino acid sequences of cynomolgus monkey CETP were greater than 95% homologous with the human sequences. A fragment of the cDNA was used
     to develop an internal-std./RNAse protection assay that allowed precise
     quantification of CETP mRNA levels. Anal. of total RNA from
     various tissues with this assay revealed that the liver and thoracic aorta
     expressed high levels of CETP mRNA; the mesenteric fat, adrenal
     gland, spleen, and abdominal aorta had low but detectable levels of the
     mRNA; and the brain, kidney, intestine, and skeletal muscle had
     undctcctable levels of that mRNA. When the monkeys were made
     hypercholesterolemic by a high-fat, high-cholesterol (HFHC)
     diet, hepatic levels of CETP mRNA increased from 1.6 pg/.mu.g
     total RNA to 4.1 pg/.mu.g; mesenteric fat CETP mRNA increased
     from 0.4 pg/.mu.g total RNA to 5.3 pg/.mu.g; and plasma CET activity
     increased approx. fourfold. The CETP mRNA levels in the
     thoracic and abdominal aortas were not significantly increased in monkeys
     fed the HFHC diet, even though those animals had gross atherosclerosis. The apoprotein E mRNA levels, however, were
     markedly increased in the aortas of monkeys with atherosclerosis
     , with the largest increase occurring in the abdominal aorta. Taken
     together, these data suggest that lipid deposition in the artery was not
     accompanied by increased expression of the CETP gene in that
     tissue. Statistical anal. showed that a strong, neg. correlation existed
     between hepatic CETP mRNA levels and both high d. lipoprotein
     cholesterol and apoprotein A-I. These data suggest that HFHC
     diet-induced changes in high d. lipoprotein metab. may be linked to
     altered expression of a functional CETP gene.
     cholesterol ester transfer protein
ST
     atherosclerosis monkey; cholesterol ester
     transfer protein sequence monkey
IT
     Adipose tissue, composition
        (cholesteryl ester transfer
        protein mRNA of mesenteric, in atherosclerosis in
        cynomolgus monkey)
IT
     Liver, composition
     Organ
        (cholesteryl ester transfer
        protein mRNA of, in atherosclerosis in cynomolgus
IT
     Blood plasma
        (cholesteryl ester transfer
        protein of, in atherosclerosis in cynomolgus monkey)
IT
        (cholesteryl ester transfer
        protein of, mol. cloning and sequence and expression of, in
        atherosclerosis)
TΤ
     Gene, animal
     RL: BIOL (Biological study)
        (for cholesteryl ester transfer
        protein, nucleotide sequence of and predicted amino acid
        sequence from and expression of, in atherosclerosis in
        cynomolgus monkey)
IΤ
     Ribonucleic acids, messenger
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RL: BIOL (Biological study)
         (for cholesteryl ester transfer
        protein, of liver in atherosclerosis in cynomolgus
        monkey, high-d. lipoproteins of blood plasma in relation to)
IT
     Molecular cloning
         (of cholesteryl ester transfer
        protein cDNA of cynomolgus monkey)
ΙT
     Protein sequences
         (of cholesteryl ester transfer
        protein, of cynomolgus monkey liver)
IT
     Lipoproteins
     RL: BIOL (Biological study)
         (apo-, A-I, mRNA for, of liver, in atherosclerosis in
        cynomolgus monkey, cholesteryl ester
        transfer protein in relation to)
ΙT
     Lipoproteins
     RL: BIOL (Biological study)
         (apo-, E, mRNA for, of aorta and liver, in atherosclerosis in
        cynomolgus monkey, cholesteryl ester
        transfer protein in relation to)
ΤT
     Arteriosclerosis
        (atherosclerosis, cholesteryl ester
        transfer protein mRNA of aorta and liver and other
        organs in, in cynomolgus monkey)
TΤ
     Deoxyribonucleic acid sequences
        (complementary, for cholesteryl ester
        transfer protein, of cynomolgus monkey liver)
TΤ
     Lipoproteins
     RL: BIOL (Biological study)
        (high-d., cholesterol of, of blood plasma in
        atherosclerosis in cynomolgus monkey, cholesteryl
        ester transfer protein in relation to)
TΨ
     Proteins, specific or class
     RL: BIOL (Biological study)
        (lipid-exchanging I, gene for, nucleotide sequence of and predicted
        amino acid sequence from and expression of, in atherosclerosis
        in cynomolgus monkey)
ΙT
     145170-17-8, Glycoprotein (Macaca irus cholesterol
     ester-exchanging protein moiety reduced)
     RL: PRP (Properties)
        (amino acid sequence of, complete)
IT
     145170-15-6
     RL: PRP (Properties)
        (nucleotide sequence of)
IT
     145170-16-7, Deoxyribonucleic acid (Macaca irus cholesterol
     ester-exchanging glycoprotein messenger RNA-complementary)
     RL: PRP (Properties)
        (nucleotide sequence of, complete)
ΙT
     57-88-5D, Cholest-5-en-3-ol (3.beta.)-, esters
     RL: BIOL (Biological study)
        (transfer protein for, gene for, nucleotide sequence of and predicted
        amino acid sequence from and expression of, in atherosclerosis
        in cynomolgus monkey)
=> fil biosis
FILE 'BIOSIS' ENTERED AT 11:58:18 ON 19 JUN 2002
COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC. (R)
FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.
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RECORDS LAST ADDED: 12 June 2002 (20020612/ED)

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=> d all tot
L60 ANSWER 1 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN
     2001:517733 BIOSIS
DN
     PREV200100517733
ΤI
     Plasmid-based vaccine for treating atherosclerosis.
ΑU
     Thomas, Lawrence J. (1)
CS
     (1) Easton, MA USA
     ASSIGNEE: AVANT Immunotherapeutics, Inc.
PΙ
     US 6284533 September 04, 2001
SO
     Official Gazette of the United States Patent and Trademark Office Patents,
     (Sep. 4, 2001) Vol. 1250, No. 1, pp. No Pagination. e-file.
     ISSN: 0098-1133.
DT
     Patent
     English
LA
     A plasmid-based vaccine is provided herein based on the
AB
     combination of DNA segments coding for one or more B cell epitopes of
     cholesteryl ester transfer protein (
     CETP) and one or more broad range helper T cell epitopes.
     Administration of the plasmids as a vaccine to a vertebrate
     subject provides an immune response to the subject's endogenous
     CETP and modulation of CETP activity, leading to
     prevention or reversal of various manifestations of heart disease. The
     vaccines provide an advantageous strategy for the prevention or
     treatment of atherosclerosis.
NCL 435320000
IT
    Major Concepts
        Cardiovascular Medicine (Human Medicine, Medical Sciences);
        Pharmacology
TΤ
     Diseases
          atherosclerosis: vascular disease
TΤ
     Chemicals & Biochemicals
        plasmid-based vaccine: vaccine
IT
     Alternate Indexing
          Atherosclerosis (MeSH)
L60
    ANSWER 2 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN
     2001:298985 BIOSIS
DN
     PREV200100298985
ΤI
    An extended toxicologic evaluation of an immunoneutralizing
    vaccine to produce anti-CETP antibodies for the
    prevention/treatment of atherosclerosis.
ΑU
     Thomas, Lawrence J. (1); Picard, Michele D. (1); Miller, David
    P. (1); Emmett, Constance D. (1); Scesney, Susanne M. (1); Pisano, Milissa
    L. (1); Adari, Hedy (1); Hammond, Russell A. (1); Marsh, Henry C. (1);
    Rittershaus, Charles W. (1); Pettey, Carolyn L. (1)
CS
     (1) AVANT Immunotherapeutics, 119 Fourth Ave., Needham, MA, 02494 USA
     FASEB Journal, (March 7, 2001) Vol. 15, No. 4, pp. A566. print.
SO
    Meeting Info.: Annual Meeting of the Federation of American Societies for
    Experimental Biology on Experimental Biology 2001 Orlando, Florida, USA
    March 31-April 04, 2001
    ISSN: 0892-6638.
DT
    Conference
LA
    English
SL
    English
AB
    A toxicology study was conducted with an immunoneutralizing
    vaccine designed to elicit antibodies that would bind to and block
    the function of cholesteryl ester transfer
    protein (CETP), in order to prevent
     atherosclerosis. The vaccine consisted of a dimer of a
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31 a.a. synthetic chimeric peptide containing an N-terminal cysteine, a T
     cell epitope (residues 830-843 of tetanus toxin), and a B cell epitope
     (residues 461-476 of human CETP), formulated with an alum
     adjuvant. In this study NZW rabbits were immunized with either 0
     mg (4 males and 4 females), 0.1 mg (2 males and 2 females), 0.25 mg (4
     males and 4 females) or 1.0 mg (4 males and 4 females) of the
     vaccine on days 1, 29 and 57. On day 197 (at a relative antibody
     minimum) half of the animals from groups 1, 3 and 4 were sacrificed. The
     remaining animals were reboosted and euthanized on day 211, at an expected
     antibody maximum. Blood samples were taken periodically throughout the
     study and were assessed for hematology, clinical chemistry, and antibody
     titers. All rabbits in the non-control groups developed anti-rabbit
     CETP antibody titers, thus validating the immunogenicity of the
     vaccine. In all other measurements the vaccinated groups
     were indistinguishable from the control group. All animals were monitored
     for clinical abnormalities throughout the study, and at necropsy, gross
     pathology was assessed, selected organs were weighed, and samples of 44
     tissues were taken for histopathology. By all the above parameters, no
     significant test article-related pathology was observed. This study
     demonstrated the administration of this CETP immunoneutralizing
    vaccine produced specific self-reactive antibody titers but no
    detectable test article-related pathology.
    Cytology and Cytochemistry - Animal *02506
General Biology - Symposia, Transactions and Proceedings of Conferences,
    Congresses, Review Annuals *00520
     Pathology, General and Miscellaneous - Therapy
    Cardiovascular System - Blood Vessel Pathology *14508
    Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies
     *15002
     Blood, Blood-Forming Organs and Body Fluids - Blood Cell Studies *15004
     Pharmacology - General *22002
       Pharmacology - Immunological Processes and Allergy *22018
     Toxicology - General; Methods and Experimental *22501
     Toxicology - Pharmacological Toxicology *22504
     Immunology and Immunochemistry - General; Methods *34502
    Leporidae
                 86040
    Major Concepts
        Pharmacology; Toxicology
     Parts, Structures, & Systems of Organisms
        B cell: blood and lymphatics, immune system; T cell: blood and
        lymphatics, immune system; blood: blood and lymphatics
     Diseases
          atherosclerosis: prevention, treatment, vascular disease
    Chemicals & Biochemicals
        anti-cholesteryl ester transfer
        protein antibodies [anti-CETP antibodies];
        cholesteryl ester transfer protein
        [CETP]; cholesteryl ester
        transfer protein immunoneutralizing vaccine
        [CETP immunoneutralizing vaccine]: immunogenicity,
        immunostimulant - drug; immunoneutralizing vaccine:
        immunostimulant - drug, toxicity
    Alternate Indexing
          Atherosclerosis (MeSH)
    Methods & Equipment
        toxicology study
    Miscellaneous Descriptors
        Meeting Abstract
ORGN Super Taxa
        Leporidae: Lagomorpha, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
        NZW rabbit (Leporidae): female, male
ORGN Organism Superterms
```

CC

BC

IT

IT

IT

TT

ΙT

TΤ

TT



Animals; Chordates; Lagomorphs; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Vertebrates

```
L60 ANSWER 3 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
     2000:476466 BIOSIS
AN
     PREV200000476466
DN
    Vaccine-induced antibodies inhibit CETP activity in
TΙ
     vivo and reduce aortic lesions in a rabbit model of
     atherosclerosis.
    Rittershaus, Charles W. (1); Miller, David P.; Thomas,
ΑU
    Lawrence J.; Picard, Michele D.; Honan, Christopher M.; Emmett,
    Constance D.; Pettey, Carolyn L.; Adari, Hedy; Hammond, Russell A.;
     Beattie, David T.; Callow, Allan D.; Marsh, Henry C.; Ryan, Una S.
     (1) AVANT Immunotherapeutics, Inc, 119 Fourth Ave, Needham, MA, 02494 USA
CS
     Arteriosclerosis Thrombosis and Vascular Biology, (September, 2000) Vol.
SO
     20, No. 9, pp. 2106-2112. print.
     ISSN: 1079-5642.
    Article
דת
    English
LA
    English
SL
AB
    Using a vaccine approach, we immunized New Zealand
     White rabbits with a peptide containing a region of cholesteryl
     ester transfer protein (CETP) known
     to be required for neutral lipid transfer function. These
     rabbits had significantly reduced plasma CETP activity and an
     altered lipoprotein profile. In a cholesterol-fed rabbit model
     of atherosclerosis, the fraction of plasma cholesterol
     in HDL was 42% higher and the fraction of plasma cholesterol in
     LDL was 24% lower in the CETP-vaccinated group than in
     the control-vaccinated group. Moreover, the percentage of the
     aorta surface exhibiting atherosclerotic lesion was 39.6%
     smaller in the CETP-vaccinated rabbits than in
     controls. The data reported here demonstrate that CETP activity
     can be reduced in vivo by vaccination with a peptide derived
     from CETP and support the concept that inhibition of
     CETP activity in vivo can be antiatherogenic. In addition, these
     studies suggest that vaccination against a self-antigen is a
     viable therapeutic strategy for disease management.
     Biochemical Studies - Proteins, Peptides and Amino Acids *10064
CC
     Biochemical Studies - General *10060
     Biochemical Studies - Lipids *10066
     Cardiovascular System - Physiology and Biochemistry *14504
     Cardiovascular System - Blood Vessel Pathology *14508
BC
     Leporidae
                 86040
IT
     Major Concepts
        Biochemistry and Molecular Biophysics; Cardiovascular System (Transport
        and Circulation)
IT
     Diseases
          atherosclerosis: vascular disease
     Chemicals & Biochemicals
IT
          cholesteryl ester transfer
        protein: inhibition, plasma activity; cholesteryl
        ester transfer protein vaccine;
        high-density lipoprotein: plasma fraction; low-density lipoprotein:
        plasma fraction
     Alternate Indexing
IT
          Atherosclerosis (MeSH)
ORGN Super Taxa
        Leporidae: Lagomorpha, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
        rabbit (Leporidae): animal model
ORGN Organism Superterms
        Animals; Chordates; Lagomorphs; Mammals; Nonhuman Mammals; Nonhuman
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Vertebrates; Vertebrates

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L60 ANSWER 4 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN
     1999:282999 BIOSIS
     PREV199900282999
DN
     A vaccine to produce anti-cholesteryl ester
тT
     transfer protein (CETP) antibodies for the
     prevention/treatment of atherosclerosis.
     Thomas, L. J. (1); Picard, M. D. (1); Miller, D. P. (1); Honan,
ΑIJ
     C. M. (1); Adari, H. (1); Emmett, C. D. (1); Marsh, H. C. (1); Ryan, U. S.
     (1); Pettey, C. L. (1); Rittershaus, C. W. (1)
     (1) Avant Immunotherapeutics, Inc., Needham, MA, 02494 USA
CS
     FASEB Journal, (March 15, 1999) Vol. 13, No. 5 PART 2, pp. A693.
SO
     Meeting Info.: Annual Meeting of the Professional Research Scientists on
     Experimental Biology 99 Washington, D.C., USA April 17-21, 1999 Federation
     of American Societies for Experimental Biology
     . ISSN: 0892-6638.
DT
    Conference
     English
LA
     Pharmacology - General *22002
CC
     Biochemical Studies - General *10060
     Nutrition - General Studies, Nutritional Status and Methods *13202
     Immunology and Immunochemistry - General; Methods
                                                         *34502
     Cardiovascular System - General; Methods *14501
    General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00520
                 86040
BC.
     Leporidae
     Major Concepts
ΙT
        Cardiovascular System (Transport and Circulation); Pharmacology
TΨ
          atherosclerosis: vascular disease; fatty streak lesion:
        vascular disease
     Chemicals & Biochemicals
IT
        anti-cholesteryl ester transfer
        protein; anti-cholesteryl ester
        transfer protein antibody producing vaccine
        ; cholesterol supplemented diet
     Alternate Indexing
IT
          Atherosclerosis (MeSH)
     Methods & Equipment
TΤ
          atherosclerosis prevention: prevention method;
        atherosclerosis treatment: therapeutic method
TΤ
     Miscellaneous Descriptors
        Meeting Abstract
ORGN Super Taxa
        Leporidae: Lagomorpha, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
        New Zealand White rabbit (Leporidae)
ORGN Organism Superterms
        Animals; Chordates; Lagomorphs; Mammals; Nonhuman Mammals; Nonhuman
        Vertebrates; Vertebrates
     20910-06-9D (CHOLESTERYL)
RN
     57-88-5 (CHOLESTEROL)
     ANSWER 5 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
L60
     1998:200178 BIOSIS
ΑN
DN
     PREV199800200178
     Use of xenogeneic cholesteryl ester transfer
     protein (CETP) in a plasmid-based vaccine to
     produce anti-CETP autoantibodies for the prevention/treatment of
     atherosclerosis.
     Thomas, L. J.; Adari, H.; Picard, M. D.; Honan, C. M.; Miller,
ΑU
     D. P.; Rittershaus, C. W.; Pettey, C. L.
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CS
     T Cell Sciences Inc., Needham, MA USA
     FASEB Journal, (March 17, 1998) Vol. 12, No. 4, pp. A310.
     Meeting Info.: Annual Meeting of the Professional Research Scientists on
     Experimental Biology 98, Part 1 San Francisco, California, USA April
     18-22, 1998 Federation of American Societies for Experimental Biology
      . ISSN: 0892-6638.
DΤ
     Conference
     English
LA
CC
     Cardiovascular System - Blood Vessel Pathology *14508
     Biochemical Studies - General *10060
     General Biology - Symposia, Transactions and Proceedings of Conferences,
     Congresses, Review Annuals *00520
     Biochemical Studies - Proteins, Peptides and Amino Acids *10064
ΙT
     Major Concepts
        Cardiovascular System (Transport and Circulation)
ፐጥ
     Diseases
          atherosclerosis: prevention, treatment, vascular disease
TT
     Chemicals & Biochemicals
        plasmid-based vaccine; xenogenic cholesteryl
        ester transfer protein: autoantibodies
IT
     Miscellaneous Descriptors
        Meeting Abstract
RN
     20910-06-9D (CHOLESTERYL)
     ANSWER 6 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ΑN
     1997:144273 BIOSIS
DN
     PREV199799443476
     A plasmid-based vaccine to elicit autoantibodies to
тT
     cholesteryl ester transfer protein (
     CETP) for the prevention/treatment of atherosclerosis.
     Thomas, L. J.; Picard, M. D.; Stewart, S. E.; Waite, B. C. D.;
Lin, A. Y.; Rittershaus, C. W.; Pettey, C. L.
T Cell Sci. Inc., Needham, MA USA
ΑU
CS
     Journal of Allergy and Clinical Immunology, (1997) Vol. 99, No. 1 PART 2,
SO
     pp. S187.
     Meeting Info.: Joint Meeting of the American Academy of Allergy, Asthma
     and Immunology, the American Association of Immunologists and the Clinical
     Immunology Society San Francisco, California, USA February 21-26, 1997
     ISSN: 0091-6749.
DТ
     Conference; Abstract
LA
     English
CC
     General Biology - Symposia, Transactions and Proceedings of Conferences,
     Congresses, Review Annuals
                                   00520
     Biochemical Studies - Proteins, Peptides and Amino Acids
                                                                  10064
     Biochemical Studies - Sterols and Steroids
                                                    10067
     Biochemical Studies - Carbohydrates
     Metabolism - Carbohydrates *13004
     Metabolism - Sterols and Steroids *13008
     Metabolism - Proteins, Peptides and Amino Acids *13012
     Cardiovascular System - Blood Vessel Pathology *14508
     Pharmacology - Drug Metabolism; Metabolic Stimulators *22003
     Pharmacology - Cardiovascular System *22010
       Pharmacology - Immunological Processes and Allergy *22018
       Routes of Immunization, Infection and Therapy
                                                        22100
     Genetics of Bacteria and Viruses
                                         31500
       Immunology and Immunochemistry - Immunopathology, Tissue Immunology
     *34508
BC
     Leporidae *86040
IT
    Major Concepts
        Cardiovascular System (Transport and Circulation); Immune System
        (Chemical Coordination and Homeostasis); Metabolism; Pharmacology
TΤ
    Chemicals & Biochemicals
        CHOLESTERYL; CHOLESTEROL
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g <del>C</del>			

ΤT Miscellaneous Descriptors ANIMAL MODEL; ATHEROSCLEROSIS; CARDIOVASCULAR SYSTEM; CHOLESTEROL ESTER TRANSFER PROTEIN AUTOANTIBODY INDUCTION; CHOLESTERYL ESTER TRANSFER PROTEIN; CYTOMEGALOVIRUS PROMOTER/ENHANCER GENE; IMMUNE SYSTEM; IMMUNOTHERAPEUTIC METHOD; PLASMID-BASED VACCINE TREATMENT; VACCINE PREVENTION; VACCINE TREATMENT; VASCULAR DISEASE ORGN Super Taxa Leporidae: Lagomorpha, Mammalia, Vertebrata, Chordata, Animalia ORGN Organism Name rabbit (Leporidae) ORGN Organism Superterms animals; chordates; lagomorphs; mammals; nonhuman mammals; nonhuman vertebrates; vertebrates RN 20910-06-9D (CHOLESTERYL) 57-88-5D (CHOLESTEROL) => fil wpix FILE 'WPIX' ENTERED AT 12:08:58 ON 19 JUN 2002 COPYRIGHT (C) 2002 THOMSON DERWENT FILE LAST UPDATED: 18 JUN 2002 <20020618/UP> MOST RECENT DERWENT UPDATE 200238 <200238/DW> DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE >>> The BATCH option for structure searches has been enabled in WPINDEX/WPIDS and WPIX >>> >>> PATENT IMAGES AVAILABLE FOR PRINT AND DISPLAY >>> >>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE http://www.derwent.com/dwpi/updates/dwpicov/index.html <<< >>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX TOOLS OF THE TRADE USER GUIDE, PLEASE VISIT: http://www.derwent.com/data/stn3.pdf <<< >>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER GUIDES, PLEASE VISIT: http://www.derwent.com/userguides/dwpi guide.html <<< => d all abeg tech tot L73 ANSWER 1 OF 4 WPIX (C) 2002 THOMSON DERWENT 1999-302645 [25] WPIX DNC C1999-088748 TΙ Vaccine against cholesteryl ester transfer protein. DC B04 D16 IN RITTERSHAUS, C W; THOMAS, L J PA (AVAN-N) AVANT IMMUNOTHERAPEUTICS INC CYC 83 PΙ WO 9920302 A1 19990429 (199925)\* EN 61p A61K039-00 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW AU 9911048 A 19990510 (199938) A1 20000809 (200039) EN EP 1024825 A61K039-00

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R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
                                                      A61K039-00
     JP 2001520204 W 20011030 (200202)
                                              67p
    WO 9920302 A1 WO 1998-US22145 19981020; AU 9911048 A AU 1999-11048
ADT
     19981020; EP 1024825 A1 EP 1998-953762 19981020, WO 1998-US22145 19981020;
    JP 2001520204 W WO 1998-US22145 19981020, JP 2000-516697 19981020
FDT AU 9911048 A Based on WO 9920302; EP 1024825 A1 Based on WO 9920302; JP
     2001520204 W Based on WO 9920302
PRAI US 1997-954643
                      19971020
     ICM A61K039-00
TC
         A61K039-39; A61K048-00; A61P009-00; A61P009-10; C07K014-47;
     ICS
          C12N015-09
    WO
          9920302 A UPAB: 20011203
AB
    NOVELTY - Vaccine that promotes production of antibodies that
    bind endogenous cholesteryl ester transfer
    protein (CETP) in a mammal comprises a non-endogenous,
    optionally mammalianized, CETP, optionally combined with an
    adjuvant, for non-specific stimulation of the mammal's immune response.
          DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a
    plasmid-based vaccine comprising a promoter, functional in
    mammalian cells, linked to a sequence encoding a non-endogenous
    CETP.
          ACTIVITY - Anti-atherosclerotic.
     MECHANISM OF ACTION - Antibodies raised against the vaccine recognize endogenous CETP, reducing its activity, and thus the
     transfer of cholesterol from high-density lipoprotein
     (HDL) to (very) low-density lipoprotein (LDL).
          USE - The vaccines (and equivalent plasmid-based
     vaccines) are used:
          (1) to increase the ratio of circulating high-density lipoprotein
     (HDL) -associated cholesterol to low-density lipoprotein
     (LDL) -associated cholesterol;
          (2) to decrease the level of endogenous CETP activity in
     humans or other animals;
          (3) to alter metabolism of LDL-associated cholesterol, for
     inhibiting development of atherosclerotic lesions;
          (4) to lower circulating levels of LDL and total cholesterol
          (5) to treat or prevent atherosclerosis (or more generally
    heart disease)
    CPI
FS
    AB; DCN
FΑ
     CPI: B04-C01G; B04-E08; B04-N02A; B05-A01A; B05-C05; B14-F06;
MC
          B14-F07; B14-S11; D05-H07; D05-H12E
                    UPTX: 19990630
TECH
     TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred vaccine: The
     non-endogenous CETP is from rabbit, mouse or monkey, or is a
     humanized form of these, or it is an allelic variant or polymorph of a
     human CETP. Particularly preferred is a humanized rabbit
     CETP of 447 amino acids (sequence given in the specification. This
     lacks the region from 393Ala to 411Ala, so resembles the human protein
     more closely than the wild-type rabbit protein. Alternatively, where the
     host is a rabbit, the non-endogenous CETP is the human protein.
     Suitable adjuvants are alum, complete or incompete Freund's adjuvant or
     the RIBI adjuvant system. Optionally the non-endogenous CETP is
     dimerized or linked to a related protein (e.g. phospholipid transfer
     protein) or other conventional carrier protein to increase its
     immunogenicity. It may also contain a source of T helper cells epitopes.
     Plasmid-based vaccines express the same CETP as above,
     and include a cytomegalovirus immediate-early promoter-enhancer.
     Preparation: CETP may be expressed by standard recombinant DNA
     methods. A typical expression vector is pCMV-CETP-TT (ATCC
     98038) in which the cytomegalovirus promoter controls expression of a
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vaccinating peptide described in PCT/US96/06147. It is modified

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conventionally to express full-length CETP proteins. TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred vaccine: The non-endogenous CETP is from rabbit, mouse or monkey, or is a humanized form of these, or it is an allelic variant or polymorph of a human CETP. Particularly preferred is a humanized rabbit CETP of 447 amino acids (reproduced). This lacks the region from 393Ala to 411Ala, so resembles the human protein more closely than the wild-type rabbit protein. Alternatively, where the host is a rabbit, the non-endogenous CETP is the human protein. Suitable adjuvants are alum, complete or incompete Freund's adjuvant or the RIBI adjuvant system. Optionally the non-endogenous CETP is dimerized or linked to a related protein (e.g. phospholipid transfer protein) or other conventional carrier protein to increase its immunogenicity. It may also contain a source of T helper cells epitopes. Plasmid-based vaccines express the same CETP as above, and include a cytomegalovirus immediate-early promoter-enhancer.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preparation: CETP are produced by usual methods of automated peptide synthesis, and coupled to carriers or other peptides through usual bifunctional crosslinkers.

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L73 ANSWER 2 OF 4 WPIX (C) 2002 THOMSON DERWENT
                        WPIX
AN
     1999-276984 [23]
DNC
    C1999-081276
     New recombinant DNA vaccines lessening cholesterol
TΙ
     ester transfer contain DNA encoding
     cholesterylester transfer protein.
DC
     B04 D16
     GLENN, K; NEEDLEMAN, P
IN
     (MONS) MONSANTO CO
PA
CYC
                                            q8e
                                                     C12N015-12
                   A1 19990401 (199923)* EN
PΤ
     WO 9915655
        RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
            OA PT SD SE SZ UG ZW
        W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE
            GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG
            MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG
            US UZ VN YU ZW
                   A 19990412 (199934)
                                                     C12N015-12
     AU 9892317
                   A1 20000705 (200035) EN
                                                     C12N015-12
     EP 1015584
         R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU NL PT SE
ADT WO 9915655 A1 WO 1998-US19366 19980917; AU 9892317 A AU 1998-92317
     19980917; EP 1015584 A1 EP 1998-944877 19980917, WO 1998-US19366 19980917
FDT AU 9892317 A Based on WO 9915655; EP 1015584 Al Based on WO 9915655
PRAI US 1997-934367
                      19970919
     ICM C12N015-12
IC
     ICS A61K048-00
          9915655 A UPAB: 19991103
AB
     NOVELTY - New recombinant DNA vaccines contain DNA encoding
     cholesteryl ester transfer protein,
     for producing antibodies to lessen the transfer of
     cholesteryl esters from HDL.
          DETAILED DESCRIPTION - A novel process for producing antibodies to
     cholesteryl ester transfer protein (
     CETP) in a mammal comprises:
          (a) immunizing the mammal with an inoculum containing a
     vehicle in which is dissolved or dispersed a recombinant DNA molecule
     comprising a DNA sequence that contains:
          (i) a sequence encoding a CETP immunogen linked to;
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(ii) a promoter sequence that controls the expression of the

immunogen being an immunogenic polypeptide having a CETP amino acid residue sequence, the immunization providing an amount of

CETP immunogen DNA sequence in the mammal, the CETP

	<b>1</b>		

the recombinant DNA molecule to induce antibodies to CETP;

(b) maintaining the immunized mammal for the production of antibodies that bind to CETP.

INDEPENDENT CLAIMS are also included for:

- (1) a process for increasing the concentration of high density lipoprotein (HDL) cholesterol in the blood of a mammal whose blood contains CETP comprising:
  - (a) step (a) as above;
- (b) maintaining the immunized mammal for the CETP immunogen to be expressed and for the production of antibodies that bind to CETP and lessen the transfer of cholesteryl esters from HDL;
- (2) an inoculum that comprises a recombinant DNA molecule comprising a DNA sequence that contains:
  - (1) a sequence encoding a CETP immunogen linked to;
- (2) a promoter sequence that controls the expression of the CETP immunogen DNA sequence in a mammal, the recombinant DNA molecule being dissolved or dispersed in a vehicle.

USE - The method can provide an autogeneic immunological process for lessening the transfer of cholesteryl esters from HDL particles and for increasing the HDL cholesterol concentration of a mammal whose blood also contains CETP. The method may be useful in treating human pro-atherogenic dyslipoproteinemias characterized by low  $\mbox{HDL/LDL}$  cholesterol ratios.

ADVANTAGE - The method can have an effect that lasts for months as compared to the short-term effects of the small molecule drugs now available.

Dwg.0/0

FS CPI

FA AB; DCN

CPI: B04-B04D5; B04-E02F; B04-G01; B04-N02A0E; B14-F02; B14-S11; MC D05-H07; D05-H12C; D05-H12E; D05-H17C

UPTX: 20001114

TECH

TECHNOLOGY FOCUS - BIOTECHNOLOGY - The encoded CETP immunogen may comprise an immunogenic polypeptide fused to an exogenous antigen carrier polypeptide, e.g. hepatitis B core protein, tetanus toxoid, or diphtheria toxoid. The DNA may be dissolved or dispersed in a vehicle, e.g. PBS or isotonic saline.

In the process for producing antibodies the blood of the mammal contains CETP.

In (1) step (a) may be repeated several times, preferably at intervals of about 3 months to six months until the HGDL cholesterol levels is increased by about 10%. In (1) the recombinant DNA encodes human or rabbit CETP as the immunogenic polypeptide. The immunogenic polypeptide may be fused (especially by either termini) to an exogenous antigenic carrier polypeptide , where the antigen is especially hepatitis B core protein , tetanus toxoid or diptheria toxoid. The antigenic carriers may optionally be fused to the C terminus and N terminus of the immunogenic polypeptide. When the antigenic carriers are fused to both termini the immunogenic portion is 10-30 amino acids in length, and is fused to an amino terminal and carboxy-terminal flanking sequence where: (a) the amino terminal flanking sequence consists of 70-90 amino acid residues of the hepatitis B core protein sequences from amino acids 1-90, the C terminal sequence is 65-85 amino acid residues in length having the

hepatitis B core protein sequence from amino acids 80-183 (sic); or (b) the amino terminal flanking sequence consists of 10-20 amino acid residues of the hepatitis B core protein sequences from amino acids 1-35 (sic), the C terminal sequence is 120-160 amino acid residues in length having the hepatitis B core protein sequence from amino acids 10-183 (sic).

When the antigenic carriers are fused to both termini the immunogenic portion is about equal in number to the number of amino acid residues absent form the hepatitis B core protein between the C termini of the

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<i>(4</i>			

flanking sequence of the amino terminal flanking sequence and the amino termini of the flanking sequence of the C terminal flanking sequence. The encoded immunogenic polypeptide has one of the two 26 or amino acid sequences given in the specification.

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L73 ANSWER 3 OF 4 WPIX (C) 2002 THOMSON DERWENT
     1997-549731 [50]
                        WPIX
AN
DNC C1997-175370
     DNA plasmid-based vaccine encodes CETP B cell and
ΤI
     helper T cell epitope(s) - used for elevating high density lipoprotein
     levels, and for treating cardiovascular disease.
DC
     B04 D16
IN
     THOMAS, L J
     (TCEL-N) T CELL SCI INC; (AVAN-N) AVANT IMMUNOTHERAPEUTICS INC
PA
CYC 73
                   A1 19971106 (199750)* EN
                                              67p
                                                     C12N015-12
PΙ
     WO 9741227
        RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT
            SD SE SZ UG
         W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE GH HU
            IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ
            PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
                                                     C12N015-12
                   A 19971119 (199812)
     AU 9729946
                                                     C12N015-12
                   A1 19990512 (199923) EN
     EP 914427
         R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
                   B 20000713 (200039)
                                                     C12N015-12
     AU 721729
     JP 2001508760 W 20010703 (200142)
                                              75p
                                                     A61K039-00
                   B1 20010904 (200154)
                                                     C12N015-12
     US 6284533
ADT WO 9741227 A1 WO 1997-US7294 19970501; AU 9729946 A AU 1997-29946
     19970501; EP 914427 A1 EP 1997-924549 19970501, WO 1997-US7294 19970501;
     AU 721729 B AU 1997-29946 19970501; JP 2001508760 W JP 1997-539202
     19970501, WO 1997-US7294 19970501; US 6284533 B1 Provisional US
     1996-52983P 19960501, CIP of US 1997-802967 19970221, WO 1997-US7294
     19970501, US 1998-171969 19981002
FDT AU 9729946 A Based on WO 9741227; EP 914427 Al Based on WO 9741227; AU
     721729 B Previous Publ. AU 9729946, Based on WO 9741227; JP 2001508760 W
     Based on WO 9741227; US 6284533 B1 Based on WO 9634888
                      19970221; US 1996-640713 19960501; US 1996-52983P
PRAI US 1997-802967
     19960501; US 1998-171969
                                19981002
     2.Jnl.Ref; WO 9634888
REP
     ICM A61K039-00; C12N015-12
TC
          A61K031-70; A61K048-00; A61P009-10; C12N005-10; C12N015-09
     ICS
          9741227 A UPAB: 19971217
AB
     A novel DNA plasmid-based vaccine comprises a nucleotide
     sequence encoding an immunogenic polypeptide, which includes at least one
     segment encoding a B cell epitope of cholesteryl ester
     transferase protein (CETP) linked in frame
     with at least one segment encoding a broad range helper T cell epitope,
     where the nucleotide segment is operably linked to a promoter sequence
     suitable for directing the transcription of the nucleotide sequence in a
     mammalian cell.
          USE - The vaccines can be used to elevate the ratio of
     circulating high density lipoproteins (HDL) to circulating low density
     lipoproteins (LDL), very low density lipoproteins (VLDL) or total
     cholesterol in a human. It can also be used for decreasing the
     level of endogenous CETP activity in a human. The
     vaccine can also be used to produce anti-CETP antibodies
     in a human and for treating cardiovascular disease in a human (all
     claimed).
     Dwg.0/10
     CPĪ
FS
FΑ
     CPI: B04-E08; B04-F11; B14-S11; D05-H07; D05-H12E; D05-H17C
MC
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L73 ANSWER 4 OF 4 WPIX (C) 2002 THOMSON DERWENT
AN
     1996-506103 [50]
                        WPIX
DNC C1996-158783
TΙ
     Cholesteryl ester transfer protein
     B cell epitope linked to T cell epitope - used to generate
     vaccine to regulate CETP activity for decreasing the
     risk of developing a cardiovascular disease e.g. atherosclerosis
DC
    B04 C06 D16
IN
    RITTERSHAUS, C W; THOMAS, L J
     (AVAN-N) AVANT IMMUNOTHERAPEUTICS INC; (TCEL-N) T CELL SCI INC;
PA
     (RITT-I) RITTERSHAUS C W; (THOM-I) THOMAS L J
CYC
    70
                   A1 19961107 (199650)* EN
                                              72p
                                                     C07K014-775
PI
    WO 9634888
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            SZ UG
         W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS
            JP KE KG KP KR KZ LK LR LT LU LV MD MG MK MN MW MX NO NZ PL PT RO
            RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
    AU 9656360
                  A 19961121 (199711)
                                                     C07K014-775
                  Al 19980311 (199814) EN
    EP 827509
                                                     C07K014-775
         R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
    JP 11504635 W 19990427 (199927)
                                             87p
                                                     C07K014-47
                  B 19990722 (199940)
    AU 707752
                                                     C07K014-775
                  C 20000808 (200051) EN
    CA 2219795
                                                     C12N009-96
    US 2002042364 A1 20020411 (200227)
                                                     A61K039-00
ADT WO 9634888 A1 WO 1996-US6147 19960501; AU 9656360 A AU 1996-56360
    19960501; EP 827509 A1 EP 1996-913320 19960501, WO 1996-US6147 19960501;
    JP 11504635 W JP 1996-533487 19960501, WO 1996-US6147 19960501; AU 707752
    B AU 1996-56360 19960501; CA 2219795 C CA 1996-2219795 19960501. WO
    1996-US6147 19960501; US 2002042364 Al CIP of US 1995-432483 19950501, Div
    ex WO 1996-US6147 19960501, Div ex US 1997-945289 19971017, US 2001-943548
    20010830
FDT AU 9656360 A Based on WO 9634888; EP 827509 A1 Based on WO 9634888; JP
    11504635 W Based on WO 9634888; AU 707752 B Previous Publ. AU 9656360,
    Based on WO 9634888; CA 2219795 C Based on WO 9634888
                      19950501; US 1997-945289
                                                 19971017; US 2001-943548
PRAI US 1995-432483
    20010830
REP
    3.Jnl.Ref; WO 9425060
    ICM A61K039-00; C07K014-47; C07K014-775; C12N009-96
IC
         A61K038-17; A61K038-45; A61K039-04; A61K039-05; A61K039-07;
          A61K039-08; A61K039-10; A61K039-13; A61K039-165; A61K039-20;
          A61K039-385; C07K014-33; C07K016-18; C12N009-10; C12N015-09
ICA C12P021-08
          9634888 A UPAB: 19961211
AB
    An isolated peptide comprising a broad range helper T cell epitope and a B
    cell epitope of the cholesteryl ester transfer
    protein (CETP) is new. Also claimed is a method of
    making an anti-CETP vaccine to modulate endogenous
    CETP activity or to treat atherosclerosis
    therapeutically or prophylactically by: (a) selecting a CETP B
    cell epitope which does not include a Class I major histocompatibility
    complex T cell antigen; (b) selecting a helper T cell epitope derived from
    a non-CETP antigenic peptide; and (c) linking the B and T cell
    epitopes to form an immunogenic moiety.
          USE - The peptide maybe used in a claimed vaccine to
    decrease the level of endogenous CETP activity in a human or
    animal so as to alter the catabolism of high density lipoprotein (HDL)-
    cholesterol, resulting in an elevated ratio of HDL-
    cholesterol versus low density (LDL) - or very LDL (VLDL) -
     cholesterol (claimed). This leads to a decreased risk of
     developing a cardiovascular disease, esp. atherosclerosis.
     Dwg.0/13
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FS CPI FΑ AB; DCN MC CPI: B04-B04C1; B04-C01G; B04-L05A; B04-N02B; B14-D02A2; B14-F07 ; B14-S11; B04-B04C1; C04-B04C1; B04-C01G; C04-C01G; B04-L05A; C04-L05A; B04-N02B; C04-N02B; B14-D02A2; C14-D02A2; B14-F07; C14-F07; B14-S11; C14-S11; C04-B04C1; C04-C01G; C04-L05A; C04-N02B; C14-D02A2; C14-F07; C14-S11; D05-H07; D05-H17C => fil medline FILE 'MEDLINE' ENTERED AT 12:14:46 ON 19 JUN 2002 FILE LAST UPDATED: 18 JUN 2002 (20020618/UP). FILE COVERS 1958 TO DATE. On June 9, 2002, MEDLINE was reloaded. See HELP RLOAD for details. MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2002 vocabulary. Enter HELP THESAURUS for details. THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE SUBSTANCE IDENTIFICATION. => d all tot L88 ANSWER 1 OF 5 MEDLINE AN 2002099139 MEDLINE 21687251 PubMed ID: 11828696 DN Down with the bad, up with the good. A biotech firm develops a TTvaccine to raise good cholesterol levels. ΑU Maeder Thomas SO SCIENTIFIC AMERICAN, (2002 Feb) 286 (2) 32-3. Journal code: 0404400. ISSN: 0036-8733. United States CY Journal; Article; (JOURNAL ARTICLE) DΤ T.A English FS Priority Journals EΜ 200202 ED Entered STN: 20020207 Last Updated on STN: 20020222 Entered Medline: 20020221 CTCheck Tags: Animal; Human \*Arteriosclerosis: PC, prevention & control \*Biotechnology \*Carrier Proteins: IM, immunology Clinical Trials, Phase II \*Lipoproteins, HDL Cholesterol: BL, blood Tetanus Toxin: IM, immunology \*Vaccines 0 (Carrier Proteins); 0 (Lipoproteins, HDL Cholesterol); 0 (Tetanus CN Toxin); 0 (Vaccines); 0 (cholesterol ester transfer proteins) ANSWER 2 OF 5 MEDLINE L88 2001058876 MEDLINE AN PubMed ID: 10929930 DN ΤI Current, new and future treatments in dyslipidaemia and atherosclerosis. Chong P H; Bachenheimer B S ΑU College of Pharmacy, University of Illinois, and Cook County Hospital, CS Chicago 60612-3785, USA.. cpang@tigger.cc.uic.edu DRUGS, (2000 Jul) 60 (1) 55-93. Ref: 294 SO Journal code: 7600076. ISSN: 0012-6667.



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CY New Zealand
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DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)

LA English

FS Priority Journals

EM 200012

ED Entered STN: 20010322

Last Updated on STN: 20010322 Entered Medline: 20001222

The new therapeutic options available to clinicians treating dyslipidaemia AΒ in the last decade have enabled effective treatment for many patients. The development of the HMG-CoA reductase inhibitors (statins) have been a major advance in that they possess multiple pharmacological effects (pleiotropic effects) resulting in potent reductions of low density lipoproteins (LDL) and prevention of the atherosclerotic process. More recently, the newer fibric acid derivatives have also reduced LDL to levels comparable to those achieved with statins, have reduced triglycerides, and gemfibrozil has been shown to increase high density lipoprotein (HDL) levels. Nicotinic acid has been made tolerable with sustained-release formulations, and is still considered an excellent choice in elevating HDL cholesterol and is potentially effective in reducing lipoprotein(a) [Lp(a)] levels, an emerging risk factor for coronary heart disease (CHD). Furthermore, recent studies have reported positive lipid-lowering effects from estrogen and/or progestogen in postmenopausal women but there are still conflicting reports on the use of these agents in dyslipidaemia and in females at risk for CHD. In addition to lowering lipid levels, these antihyperlipidaemic agents may have directly or indirectly targeted thrombogenic, fibrinolytic and atherosclerotic processes which may have been unaccounted for in their overall success in clinical trials. Although LDL cholesterol is still the major target for therapy, it is likely that over the next several years other lipid/lipoprotein and nonlipid parameters will become more generally accepted targets for specific therapeutic interventions. Some important emerging lipid/lipoprotein parameters that have been associated with CHD include elevated triglyceride, oxidised LDL cholesterol and Lp(a) levels, and low HDL levels. The nonlipid parameters include elevated homocysteine and fibrinogen, and decreased endothelial-derived nitric oxide production. Among the new investigational agents are inhibitors of squalene synthetase, acylCoA: cholesterol acyltransferase, cholesteryl ester transfer protein, monocyte-macrophages and LDL cholesterol oxidation. Future applications may include thyromimetic therapy, cholesterol vaccination, somatic gene therapy, and recombinant proteins, in particular, apolipoproteins A-I and E. Non-LDL-related targets such as peroxisome proliferator-activating receptors, matrix metalloproteinases and scavenger receptor class B type I may also have clinical significance in the treatment of atherosclerosis in the near future. Before lipid-lowering therapy, dietary and lifestyle modification is and should be the first therapeutic intervention in the management of dyslipidaemia. Although current recommendations from the US and Europe are slightly different, adherence to these recommendations is essential to lower the risk of atherosclerotic vascular disease, more specifically CHD. New quidelines that are expected in the near future will encompass global opinions from the expert scientific community addressing the issue of target LDL goal (aggressive versus moderate lowering) and the application of therapy for newer emerging CHD risk factors. Check Tags: Human CT

\*Anticholesteremic Agents: TU, therapeutic use

\*Arteriosclerosis: DT, drug therapy Arteriosclerosis: PP, physiopathology Arteriosclerosis: PC, prevention & control

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*Cholesterol: ME, metabolism
     Diet
     Forecasting
     *Hyperlipidemia: DT, drug therapy
     Hyperlipidemia: PP, physiopathology
     Hyperlipidemia: PC, prevention & control
     Life Style
     *Lipoproteins: DE, drug effects
     *Lipoproteins: ME, metabolism
    57-88-5 (Cholesterol)
RN
    0 (Anticholesteremic Agents); 0 (Lipoproteins)
CN
    ANSWER 3 OF 5
                       MEDLINE
1.88
                    MEDLINE
    2000482102
AN
               PubMed ID: 10978256
DN
    20436374
    Vaccine-induced antibodies inhibit CETP activity in
ΤI
    vivo and reduce aortic lesions in a rabbit model of
    atherosclerosis.
    Comment in: Arterioscler Thromb Vasc Biol. 2000 Sep;20(9):2029-31
CM
    Rittershaus C W; Miller D P; Thomas L J; Picard M D; Honan C M; Emmett C
AU
    D; Pettey C L; Adari H; Hammond R A; Beattie D T; Callow A D; Marsh H C;
    Ryan U S
    AVANT Immunotherapeutics, Inc, Needham, MA 02494, USA..
CS
    crittershaus@avantimmune.com
    HL-59122 (NHLBI)
NC
    ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY, (2000 Sep) 20 (9)
SO
     2106-12.
     Journal code: 9505803. ISSN: 1524-4636.
CY
    United States
     Journal; Article; (JOURNAL ARTICLE)
DT
LA
    English
FS
     Priority Journals
    200010
EM
    Entered STN: 20001019
ED
     Last Updated on STN: 20010521
     Entered Medline: 20001012
    Using a vaccine approach, we immunized New Zealand
AR
    White rabbits with a peptide containing a region of cholesteryl
     ester transfer protein (CETP) known
     to be required for neutral lipid transfer function. These
     rabbits had significantly reduced plasma CETP activity and an
     altered lipoprotein profile. In a cholesterol-fed rabbit model
     of atherosclerosis, the fraction of plasma cholesterol
     in HDL was 42% higher and the fraction of plasma cholesterol in
     LDL was 24% lower in the CETP-vaccinated group than in
     the control-vaccinated group. Moreover, the percentage of the
     aorta surface exhibiting atherosclerotic lesion was 39.6%
     smaller in the CETP-vaccinated rabbits than in
     controls. The data reported here demonstrate that CETP activity
     can be reduced in vivo by vaccination with a peptide derived
     from CETP and support the concept that inhibition of
     CETP activity in vivo can be antiatherogenic. In addition, these
     studies suggest that vaccination against a self-antigen is a
     viable therapeutic strategy for disease management.
     Check Tags: Animal; Human; Support, U.S. Gov't, P.H.S.
CT
      Antibodies: BL, blood
       *Aorta: PA, pathology
        Arteriosclerosis: IM, immunology
       *Arteriosclerosis: ME, metabolism
        Arteriosclerosis: PA, pathology
        Arteriosclerosis: TH, therapy
      Blotting, Western
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CHO Cells

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Carrier Proteins: GE, genetics
     *Carrier Proteins: IM, immunology
      Carrier Proteins: ME, metabolism
      Cholesterol, Dietary: PD, pharmacology
      Disease Models, Animal
      Hamsters
      Kidney Function Tests
      Lipoproteins: AN, analysis
      Rabbits
      Recombinant Proteins: IM, immunology
      Recombinant Proteins: ME, metabolism
        Vaccines, Synthetic: AD, administration & dosage
       *Vaccines, Synthetic: IM, immunology
     0 (Antibodies); 0 (Carrier Proteins); 0 (Cholesterol, Dietary); 0
CN
     (Lipoproteins); 0 (Recombinant Proteins); 0 (Vaccines,
     Synthetic); 0 (cholesterol ester transfer
     proteins)
    ANSWER 4 OF 5
                        MEDLINE
1.88
     1999307576
                     MEDLINE
AN
               PubMed ID: 10377515
DN
     99307576
     A vaccine approach to healthy lipoprotein levels.
ΤI
ΑU
     MOLECULAR MEDICINE TODAY, (1999 Jul) 5 (7) 281.
SO
     Journal code: 9508560. ISSN: 1357-4310.
CY
     ENGLAND: United Kingdom
DT
     News Announcement
LA
     English
     Priority Journals
FS
EM
     199909
     Entered STN: 19991005
ED
     Last Updated on STN: 19991005
     Entered Medline: 19990921
     Check Tags: Animal; Human; Male
CT
      Aged
      Aged, 80 and over
      Antibodies: CH, chemistry
       *Arteriosclerosis: PC, prevention & control
     Carrier Proteins: GE, genetics
*Carrier Proteins: IM, immunology
      Clinical Trials
      Japan
     *Lipoproteins, HDL: BL, blood
      Peptides: CS, chemical synthesis
Peptides: IM, immunology
      Rabbits
        Vaccines: AD, administration & dosage
        Vaccines: CS, chemical synthesis
        *Vaccines: IM, immunology
     0 (Antibodies); 0 (Carrier Proteins); 0 (Lipoproteins, HDL); 0 (Peptides);
     0 (Vaccines); 0 (cholesterol ester
     transfer proteins)
                        MEDLINE
L88 ANSWER 5 OF 5
                   MEDLINE
     97355212
AN
                 PubMed ID: 9211407
     97355212
DN
     Vaccine for atherosclerosis.
ΤI
     O'Brien C
ΑU
     MOLECULAR MEDICINE TODAY, (1997 Jun) 3 (6) 231.
SO
     Journal code: 9508560. ISSN: 1357-4310.
CY
     ENGLAND: United Kingdom
DT
     News Announcement
LA
     English
```



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Priority Journals
FS
     199708
EM
     Entered STN: 19970908
ED
     Last Updated on STN: 19970908
     Entered Medline: 19970822
CT
     Check Tags: Animal; Human
      Apolipoproteins: BI, biosynthesis
      Apolipoproteins: IM, immunology
       *Arteriosclerosis: TH, therapy
      Carrier Proteins: BI, biosynthesis
      Carrier Proteins: GE, genetics
     *Carrier Proteins: IM, immunology
      Mice
      Mice, Transgenic
      Rabbits
       *Vaccines, DNA
     0 (Apolipoproteins); 0 (Carrier Proteins); 0 (Vaccines, DNA); 0
CN
     (cholesterol ester transfer proteins
     )
=> d his
     (FILE 'HOME' ENTERED AT 11:33:14 ON 19 JUN 2002)
                SET COST OFF
     FILE 'REGISTRY' ENTERED AT 11:33:30 ON 19 JUN 2002
                E CHOLESTERYL ESTER TRANSFER PROTEIN/CN
              1 S E4
L1
                E CETP/CN
                E CHOLESTER? (L) ESTER (L) TRANSFER? (L) PROTEIN
             13 S CHOLESTER? (L) ESTER (L) TRANSFER? (L) PROTEIN
L2
             13 S CETP
L3
             13 S CHOLESTER? (L) ESTER (L) EXCHANG? (L) PROTEIN
L4
L5
              1 S L1 AND L2-L4
             24 S L2-L4 NOT L5
L6
     FILE 'HCAPLUS' ENTERED AT 11:37:36 ON 19 JUN 2002
            876 S CHOLESTER? (L) ESTER (L) EXCHANG? (L) PROTEIN
L7
                E CHOLESTER? (L) ESTER (L) TRANSFER? (L) PROTEIN
            883 S CETP
1.8
           1325 S CHOLESTER? (L) ESTER (L) TRANSFER? (L) PROTEIN
L9
             16 S L5 OR L6
1.10
             16 S L7-L9 AND L10
L11
L12
             57 S ?ARTHEROSCLERO?
          34932 S ?ATHEROSCLERO?
L13
L14
             19 S ?ARTHERIOSCLERO?
          13496 S ?ARTERIOSCLERO?
L15
               9 S L11 AND L12-L15
L16
               4 S L11 AND VACCIN?
L17
               4 S L17 AND L16
L18
                E ATHEROSCLEROSIS/CT
                 E E3+ALL
          20165 S E7-E9, E6
L19
          32452 S E6, E8, E9/BI
L20
                 E E5+ALL
          22555 S E5+NT
L21
           8925 S E5/BI
L22
               9 S L11 AND L19-L22
L23
               4 S L16, L23 AND VACCIN?
L24
L25
               5 S L16, L23 NOT L24
L26
               9 S L23-L25
            331 S L7-L9 AND L12-L15, L19-L22
L27
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L28
              9 S L27 AND VACCIN?
L29
             24 S L7-L9, L10 AND EPITOP?
L30
              5 S L29 AND (TETANUS OR DIPHTHER? OR TOXOID OR TOXIN OR BCG OR BA
L31
             15 S L26, L28, L30
             19 S L29 NOT L31
L32
                 E RITTERSHAUS C/AU
L33
             20 S E3-E6
                 E THOMAS L/AU
L34
             219 S E3, E14, E15
                 E THOMAS LARRY/AU
L35
              4 S E3
L36
             23 S E26, E29
L37
              6 S L33-L36 AND L7-L10
L38
              6 S L31 AND L37
L39
              9 S L31 NOT L38
L40
             15 S L38, L39
L41
              5 S L40 AND (PY<=1995 OR PRY<=1995 OR AY<=1995)
L42
             15 S L40, L41
     FILE 'HCAPLUS' ENTERED AT 11:52:33 ON 19 JUN 2002
     FILE 'BIOSIS' ENTERED AT 11:52:55 ON 19 JUN 2002
              1 S L5 OR L6
L43
           1529 S L7-L9
L44
           1529 S L43, L44
L45
            324 S L45 AND L12-L15, L20, L22
L46
              8 S L45 AND VACCIN?
L47
              7 S L45 AND (IMMUNIZ? OR IMMUNIS?)
L48
              6 S L46 AND L47, L48
L49
             17 S 22100/CC AND L45
L50
             15 S 34508/CC AND L45
L51
              3 S 22018/CC AND L45
L52
             37 S L49-L52
L53
             10 S L53 AND L46
L54
                SEL DN AN 1 5 9 10
              6 S L54 NOT E1-E8
L55
                E RITTERSHAUS C/AU
             37 S E3-E6
L56
                E THOMAS L/AU
            491 S E3, E16-E19
L57
                E THOMAS LAWRENCE/AU
              9 S E3, E5
L58
L59
              6 S L45 AND L56-L58
L60
              6 S L55, L59
     FILE 'BIOSIS' ENTERED AT 11:58:18 ON 19 JUN 2002
     FILE 'WPIX' ENTERED AT 11:58:47 ON 19 JUN 2002
L61
             94 S L7-L9
             64 S L61 AND L12-L15, L20, L22
L62
             53 S L61 AND (B14-F07 OR C14-F07 OR B12-H03 OR C12-H03)/MC
L63
             64 S L61 AND (?ATHEROSCLERO? OR ?ATHERIOSCLERO? OR ?ARTERIOSCLERO?
L64
L65
             65 S L62-L64
              4 S L61 AND (VACCIN? OR IMMUNIZ? OR IMMUNIS? OR (B14-S11 OR C14-S
L66
              2 S L66 AND L65
L67
L68
              2 S L66 NOT L67
                E RITTERSHAUS C/AU
              9 S E3, E4
L69
                E THOMAS L/AU
             95 S E3,E11
L70
L71
              3 S L61 AND L69, L70
L72
              3 S AVANT?/PA AND L61
L73
              4 S L66-L68, L71, L72
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## FILE 'WPIX' ENTERED AT 12:08:58 ON 19 JUN 2002

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FILE 'MEDLINE' ENTERED AT 12:09:11 ON 19 JUN 2002
L74
            1433 S L7-L10
L75
            264 S L74 AND L12-L15, L19-L22
            253 S L74 AND (?ATHEROSCLERO? OR ?ATHERIOSCLERO? OR ?ARTERIOSCLERO?
L76
                 E ATHEROSCLERO/CT
                E E8+ALL
                E E2+ALL
          89148 S E4+NT
L77
            154 S L74 AND L77
L78
            264 S L75, L76, L78
L79
L80
              5 S L79 AND (VACCIN? OR IMMUNIZ? OR IMMUNIS?)
                E VACCINE/CT
                E E4+ALL
                E E2+ALL
L81
              0 S L79 AND E44+NT
                E E44+ALL
                E VACCINES/CT
                E E3+ALL
L82
              4 S L79 AND E7+NT
L83
              5 S L80, L82
L84
            265 S L74 AND C14./CT
L85
             47 S L74 AND A7./CT
L86
              4 S L84, L85 AND (VACCIN? OR IMMUNIZ? OR IMMUNIS?)/CT
L87
              4 S L84 AND VACCINES+NT/CT
L88
              5 S L83, L86, L87
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FILE 'MEDLINE' ENTERED AT 12:14:46 ON 19 JUN 2002

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